

Hospital Utilization in Massachusetts

An Assessment by
Race & Ethnicity
SFY 2021

August 2023

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Executive Summary

To provide objective and reliable reporting on the health care system, this report focuses on disparities in acute care utilization by race and ethnicity as part of the Center for Health Information and Analysis' (CHIA) ongoing series on health care equity in the Commonwealth. While many Massachusetts residents still struggle to access high quality, affordable, and timely health care, the systemic inequities and institutional racism faced by historically marginalized groups exacerbate these issues. This report focuses on differences in acute care utilization—including inpatient discharges and emergency department visits from acute care hospitals—for non-Hispanic Black, non-Hispanic Asian, and Hispanic patients of any race as compared to non-Hispanic White patients. All analyses used the Massachusetts Acute Hospital Case Mix Database (Case Mix), which contains data reported directly from all acute care hospitals in Massachusetts and processed by CHIA.

Key Findings

Non-Hispanic Black patients had disproportionately higher acute care utilization compared to patients of other racial and ethnic groups.

- Non-Hispanic Black patients accounted for a greater share of inpatient discharges (8.2%) and emergency department (ED) visits (12.3%) relative to their share of the Massachusetts population (6.7%).
- Regardless of age group or sex, non-Hispanic Black patients had the highest readmission (i.e., returns to the inpatient setting) and revisit (i.e., returns through the ED) rates compared to other racial and ethnic groups (17.8% and 30.1%, respectively).
- Non-Hispanic Black patients had the longest average length of stay (ALOS) (5.9 days) and the highest proportion of ED visits associated with excess length of stay (LOS)¹ (defined as spending more than four hours

in the ED) (39.6%) compared to other racial and ethnic groups.

- Non-Hispanic Black patients with behavioral health conditions had higher readmission rates (23.2%) and a higher proportion of ED visits (69.7%) associated with excess LOS compared to other racial and ethnic groups.

Among Hispanic patients, ED utilization and revisits were disproportionately higher compared to non-Hispanic White patients.

- Hispanic patients accounted for a lower share of inpatient visits (9.6%) and a higher share of ED visits (16.8%) relative to their share of the Massachusetts population (12.4%).
- Hispanic patients had the second highest ED revisit rates after non-Hispanic Black patients among all racial and ethnic groups (29.8%), regardless of age group or sex.
- Hispanic patients had a similar ALOS (5.2 days) in the inpatient setting but a lower proportion of ED visits associated with excess LOS (36.2%) compared to non-Hispanic White patients (5.1 days and 38.8%, respectively), even when examined for visits associated with behavioral health conditions.

While non-Hispanic Asian patients had lower acute care utilization, they had the longest ALOS for discharges resulting in a readmission and those associated with behavioral health compared to other racial and ethnic groups.

- Non-Hispanic Asian patients accounted for a lower share of inpatient discharges (3.1%) and ED visits (2.3%) relative to their share of the Massachusetts population (6.8%).
- Non-Hispanic Asian patients had the lowest readmission and revisit rates (14.5% and 21.9%, respectively) compared to other racial and ethnic groups. Elderly, non-Hispanic Asian patients had readmission rates higher than elderly, non-Hispanic White patients (17.0% vs. 16.6%).
- Non-Hispanic Asian patients had the longest ALOS for inpatient discharges resulting in a readmission (7.7 days) and for inpatient discharges associated with behavioral health conditions (8.0 days) compared to other racial and ethnic groups. ■

Introduction

Massachusetts remains a national leader in hospital quality and insurance coverage, in part due to the 2006 health care reforms that laid the groundwork for the Affordable Care Act.² However, there are still gaps in health care coverage, access, utilization, and outcomes by race, ethnicity, socioeconomic position, geography, gender identity, sexual orientation, national origin, and disability status, among other characteristics.^{3,4,5,6,7,8} Furthermore, many residents who are part of historically marginalized groups have limited access to health care in the appropriate settings, receive lower quality care or care from underresourced facilities, or underutilize care when necessary, partly attributable to systemic inequities and institutional racism.^{9,10} The COVID-19 pandemic has brought increased urgency to examine and address issues of health care equity across the nation and in the Commonwealth.

In line with the goal of achieving a more equitable health care system, where all residents have the opportunity to “attain their full health potential, with no one disadvantaged from achieving this potential due to socioeconomic status or socially assigned circumstance (e.g., geography, race, gender, ethnicity, religion, sexual orientation)”^{11,12} it is imperative to prioritize the collection and analysis of reliable and meaningful health care information on subpopulations to inform policymakers, health care providers, payers, and other stakeholders.

Toward this aim, the Center for Health Information and Analysis (CHIA) releases this report focused on hospital utilization for racial and ethnic population groups as part of an ongoing series on health care equity in the Commonwealth. Measures of acute care hospital utilization are often used to assess hospital quality and

performance, monitor changing demand for acute care services, and estimate the overall health and disease burden of the population. CHIA regularly reports on inpatient and emergency acute care utilization in the Case Mix Standard Reporting series,¹³ as well as all-payer unplanned readmissions¹⁴ and revisits.¹⁵ This reporting includes an initial examination of utilization patterns for patients by racial and ethnic groups across acute care settings, providing a more comprehensive look at differences in acute care utilization than previously reported in the Commonwealth. This report serves as a foundation for future analyses of disparities in hospital utilization. CHIA will continue to monitor and examine trends in utilization and update this reporting as new

insights and focus areas are revealed through data trends, policy efforts, and interventions.

The Massachusetts Acute Hospital Case Mix Database (Case Mix) was used for the analyses presented in this report. This data source includes detailed information on inpatient discharges, emergency department visits, and hospital observation stays at all acute care hospitals in the Commonwealth. Unless otherwise noted, analyses in this report use State Fiscal Year (SFY) 2021 (July 1, 2020 – June 30, 2021). More information about CHIA's Case Mix data can be found at <https://www.chiamass.gov/case-mix-data/>. ■

Acute Care Utilization by Race & Ethnicity

Patients may receive care in the acute inpatient setting to stabilize acute or chronic conditions, recover from elective or emergency procedures, or await transfer to post-acute settings for rehabilitative or long-term care services, whereas the emergency department (ED) is meant to provide services to those needing immediate care. While the ED is a costly setting to receive care, it may be overutilized for non-emergency services due to limited access to other settings of care (e.g. due to physical distance, hours of operation, wait times, insurance coverage restrictions, or cost).^{16,17} Furthermore, most returns to the acute care setting after an inpatient discharge are unplanned and potentially avoidable. Returns to the acute care setting at any level (i.e., to the ED, observation or inpatient setting) are of particular importance to providers, payers and policymakers as they represent opportunities to improve care transitions and develop

cross-setting and community-based strategies. Variations in acute care utilization and returns to the acute care setting may indicate differences in patient clinical complexity, but may also reflect disparities in access to primary care and the quality of care received at the hospital and following discharge.^{18,19,20} It is important to identify differences in overall acute care utilization by race and ethnicity to inform targeted policy and delivery system reforms.

This section examines differences in inpatient and ED utilization and returns to the acute care setting, as measured by readmissions and revisits, for patients of different racial and ethnic groups. A readmission is defined as a subsequent, unplanned hospitalization within 30 days of an inpatient discharge. A revisit is any return to the acute care setting through the ED after an inpatient discharge. This section presents analyses of

the number of inpatient discharges and ED visits from SFY 2019-2021, average length of stay (ALOS) in the inpatient setting, excess length of stay²¹ (LOS) in the ED (defined as spending more than four hours in the ED), and readmission and revisit rates.

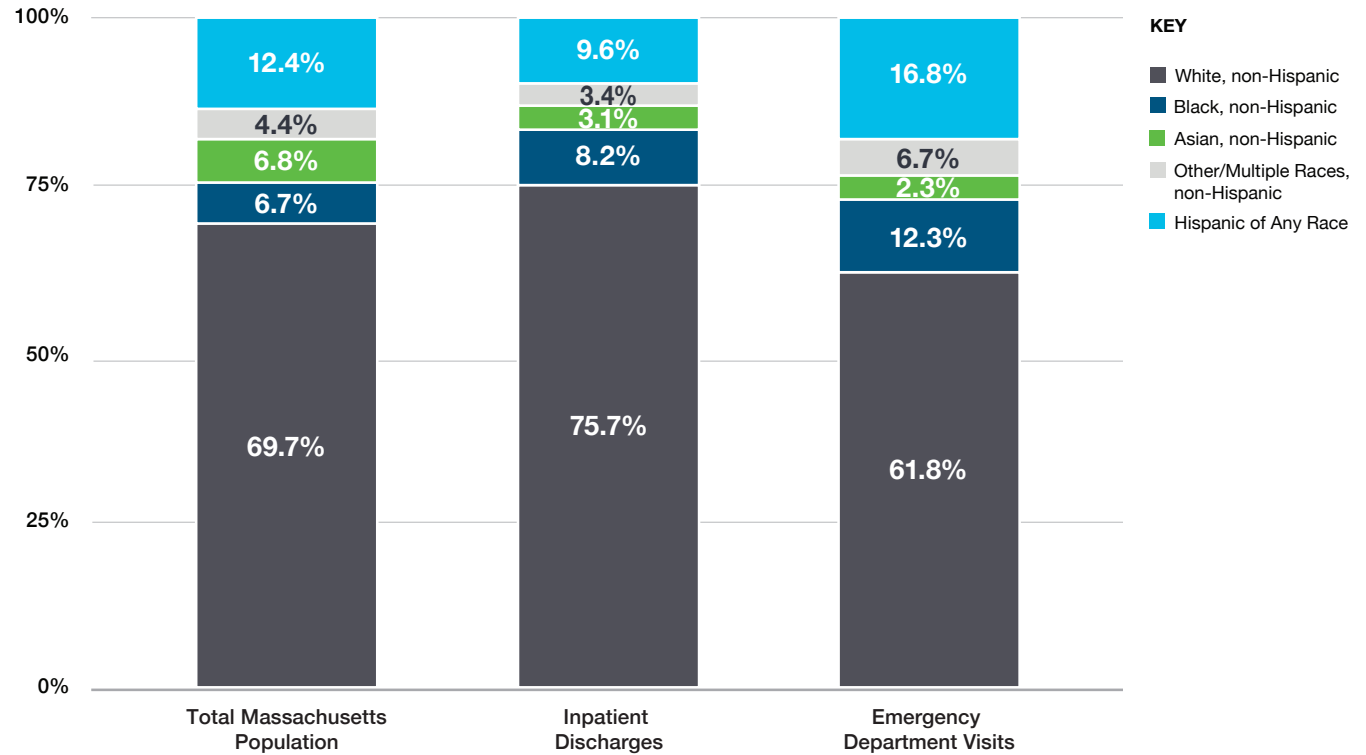
- Non-Hispanic Black patients accounted for a greater share of inpatient discharges (8.2%) and emergency department (ED) visits (12.3%) relative to their share of the Massachusetts population (6.7%).
- Hispanic patients accounted for a lower share of inpatient visits (9.6%) and a higher share of ED visits (16.8%) relative to their share of the Massachusetts population (12.4%).

- Non-Hispanic Asian patients accounted for a lower share of inpatient discharges (3.1%) and ED visits (2.3%) relative to their share of the Massachusetts population (6.8%).
- Non-Hispanic Black patients had the highest readmission and revisit rates compared to other racial and ethnic groups (17.8% and 30.1%, respectively).
- Non-Hispanic Black patients had the longest ALOS in the inpatient setting compared to other racial and ethnic groups, at 5.9 days.
- Non-Hispanic Asian patients had the longest ALOS for discharges resulting in a readmission compared to other racial and ethnic groups, at 7.7 days. ■

Acute Hospital Utilization

In 2021, Non-Hispanic Black residents accounted for 6.7% of the Massachusetts population and accounted for a higher share of inpatient discharges and ED visits (8.2% and 12.3%, respectively). Hispanic residents accounted for 12.4% of the Massachusetts population and made up a lower share of inpatient discharges (9.6%) and a higher share of ED visits (16.8%). Non-Hispanic Asian residents made up 6.8% of Massachusetts residents and made up a lower share of inpatient discharges (3.1%) and ED visits (2.3%).

Racial Demographics of Massachusetts Residents, Hospital Inpatient Discharges, and Emergency Department Visits SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Total Massachusetts Population	4,871,674	467,943	477,667	310,366	864,202
Inpatient Discharges	532,070	57,774	21,804	24,028	67,539
Emergency Department Visits	1,135,330	226,009	42,859	122,642	308,910

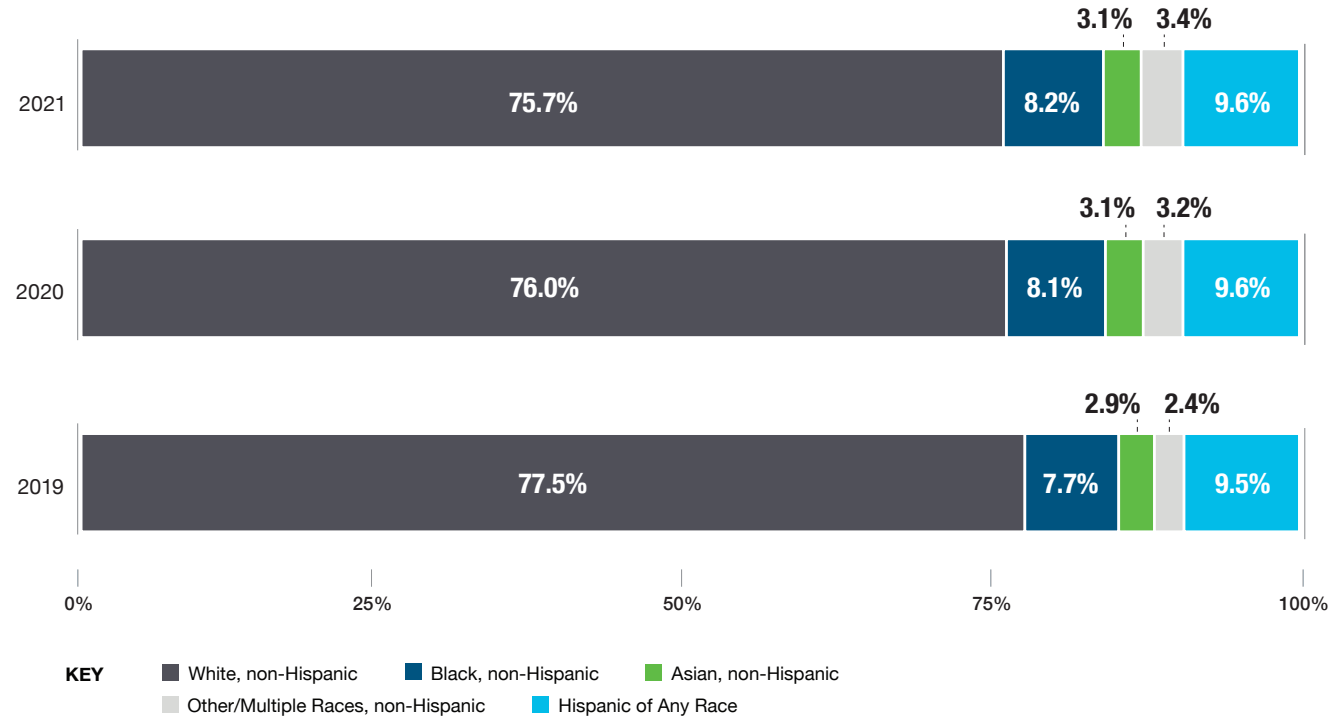
Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Acute Hospital Case Mix Databases, July 2020 to June 2021. American Community Survey 2017-2021 5-Year Estimates.

Acute Hospital Utilization

The racial and ethnic demographics of inpatient discharges have been stable since 2019. In 2021, Hispanic patients made up 9.6% of inpatient discharges, while non-Hispanic Black and non-Hispanic Asian patients made up 8.2% and 3.1% of inpatient discharges, respectively.

Hospital Inpatient Discharges by Race/Ethnicity SFY 2019-2021



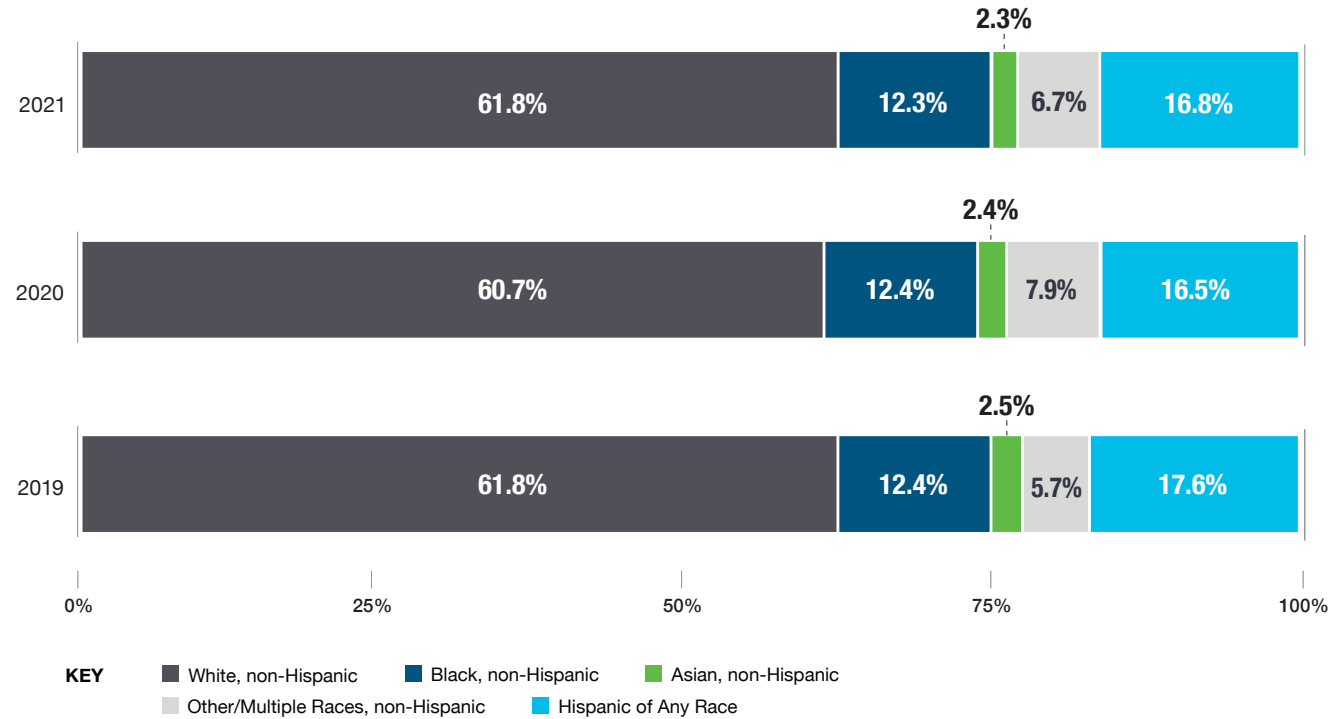
	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
2021	532,070	57,774	21,804	24,028	67,539
2020	541,091	57,856	21,885	23,062	68,237
2019	587,160	58,556	22,280	18,317	71,672

Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).
Source: Massachusetts Hospital Acute Case Mix Databases, July 2018 to June 2021.

Acute Hospital Utilization

As with the inpatient setting, the racial demographics of the ED have remained stable since 2019. Hispanic patients, non-Hispanic Black patients and non-Hispanic Asian patients accounted for 16.8%, 12.3%, and 2.3% of ED visits, respectively, in 2021.

Hospital Emergency Department Visits by Race/Ethnicity SFY 2019-2021

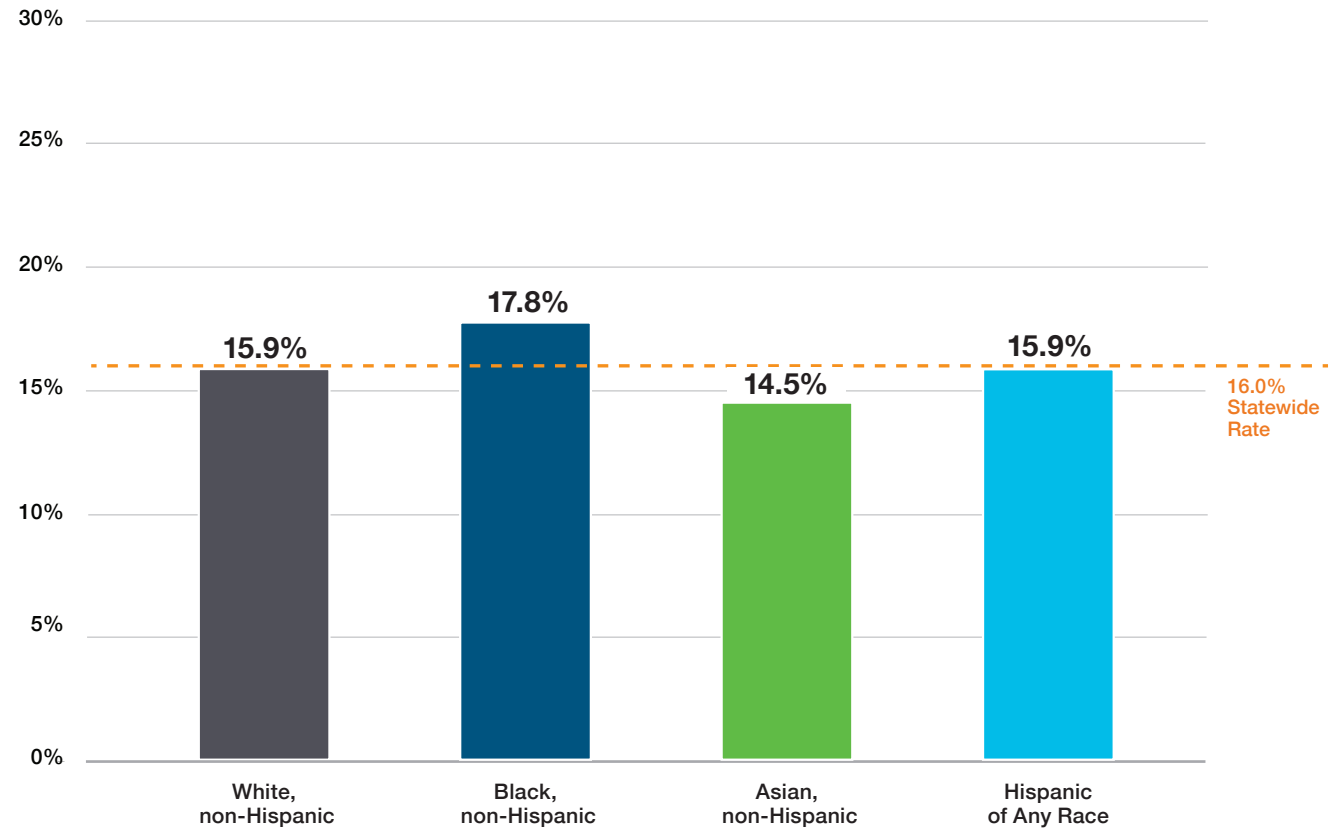


	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
2021	1,135,330	226,009	42,859	122,642	308,910
2020	1,277,764	261,713	51,385	166,194	347,354
2019	1,485,428	298,001	59,298	136,080	423,366

Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).
Source: Massachusetts Hospital Acute Case Mix Databases, July 2018 to June 2021.

In 2021, non-Hispanic Black patients had the highest readmission rate compared to other racial and ethnic groups, at 17.8%. Non-Hispanic Asian patients had the lowest readmission rate, at 14.5%, compared to other racial and ethnic groups.

Statewide All-Payer Readmission Rates by Race/Ethnicity SFY 2021



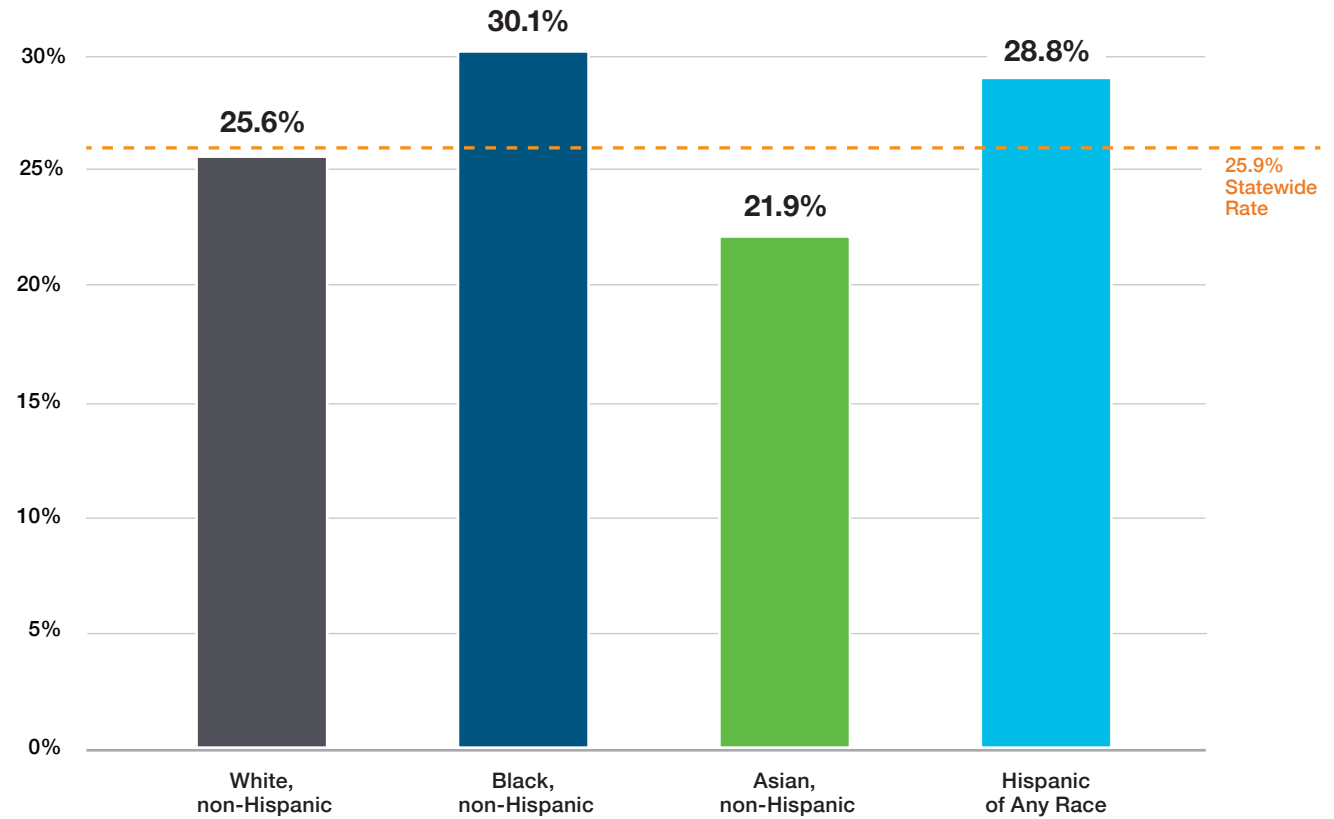
Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric or primary psychiatric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Non-Hispanic Black patients had the highest revisit rates among all racial and ethnic groups (30.1%). Hispanic patients had the second highest revisit rates, at 28.8%, and non-Hispanic Asian patients had the lowest revisit rates, at 21.9%, compared to other racial and ethnic groups.

Statewide All-Payer 30-Day Revisit Rates by Race/Ethnicity

SFY 2021



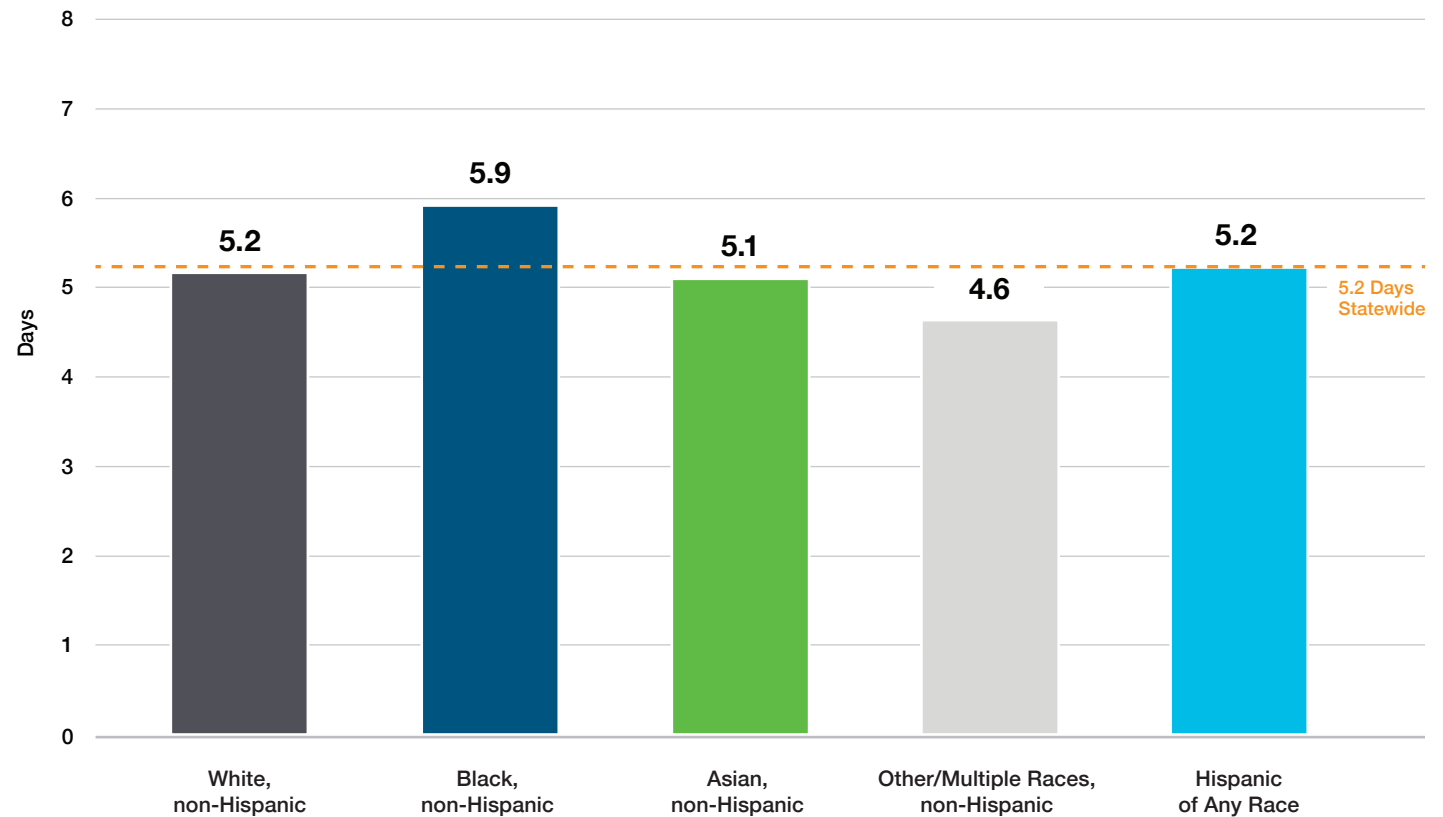
Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Average Length of Stay (ALOS) for Inpatient Discharges by Race/Ethnicity

SFY 2021

Non-Hispanic Black patients had the longest ALOS in the inpatient setting among all racial and ethnic groups, at 5.9 days.

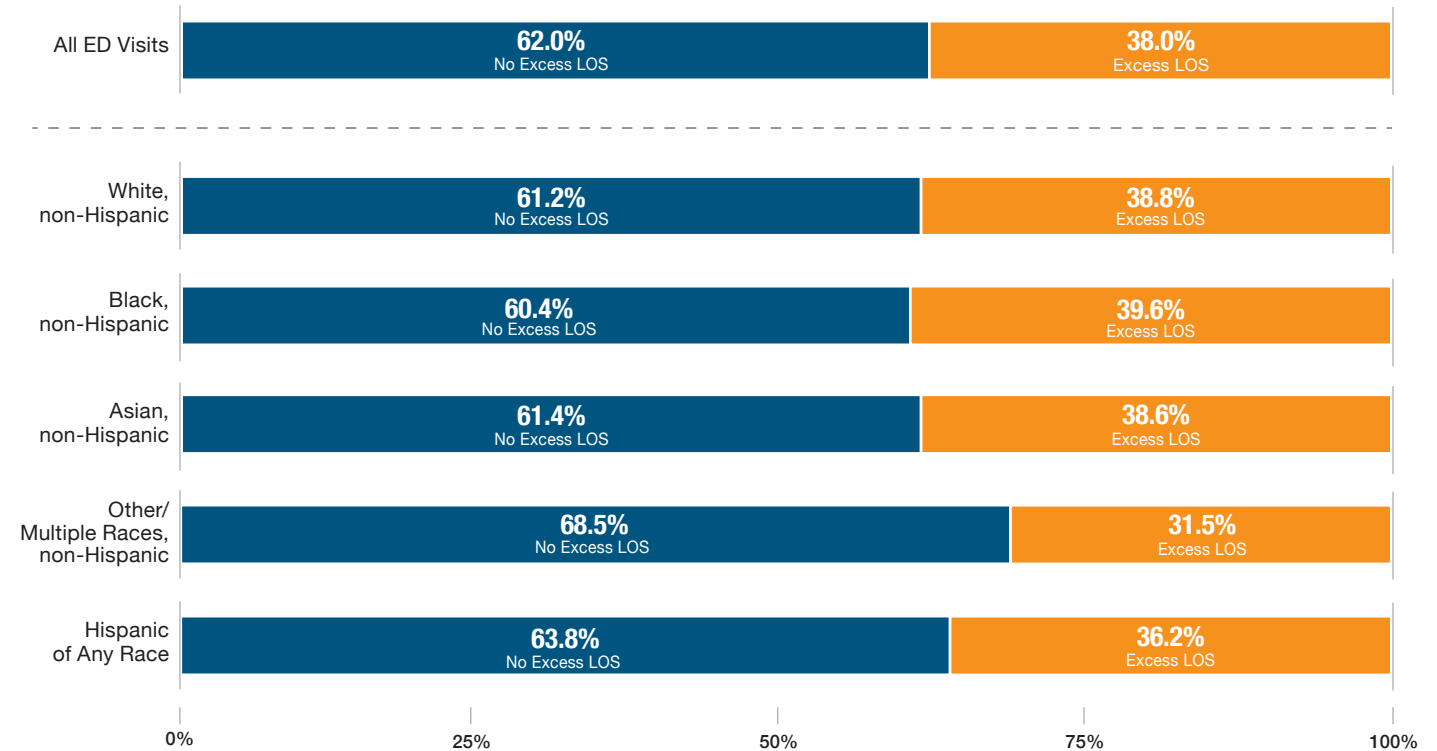


Notes: For more information about race/ethnicity categories, see [technical appendix](#).
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Excess Length of Stay (LOS) for Hospital Emergency Department Visits by Race/Ethnicity

SFY 2021

Excess LOS is defined as ED visits that lasted more than four hours from the time of registration. Non-Hispanic Black patients had the highest proportion of ED visits associated with excess LOS, at 39.6%.



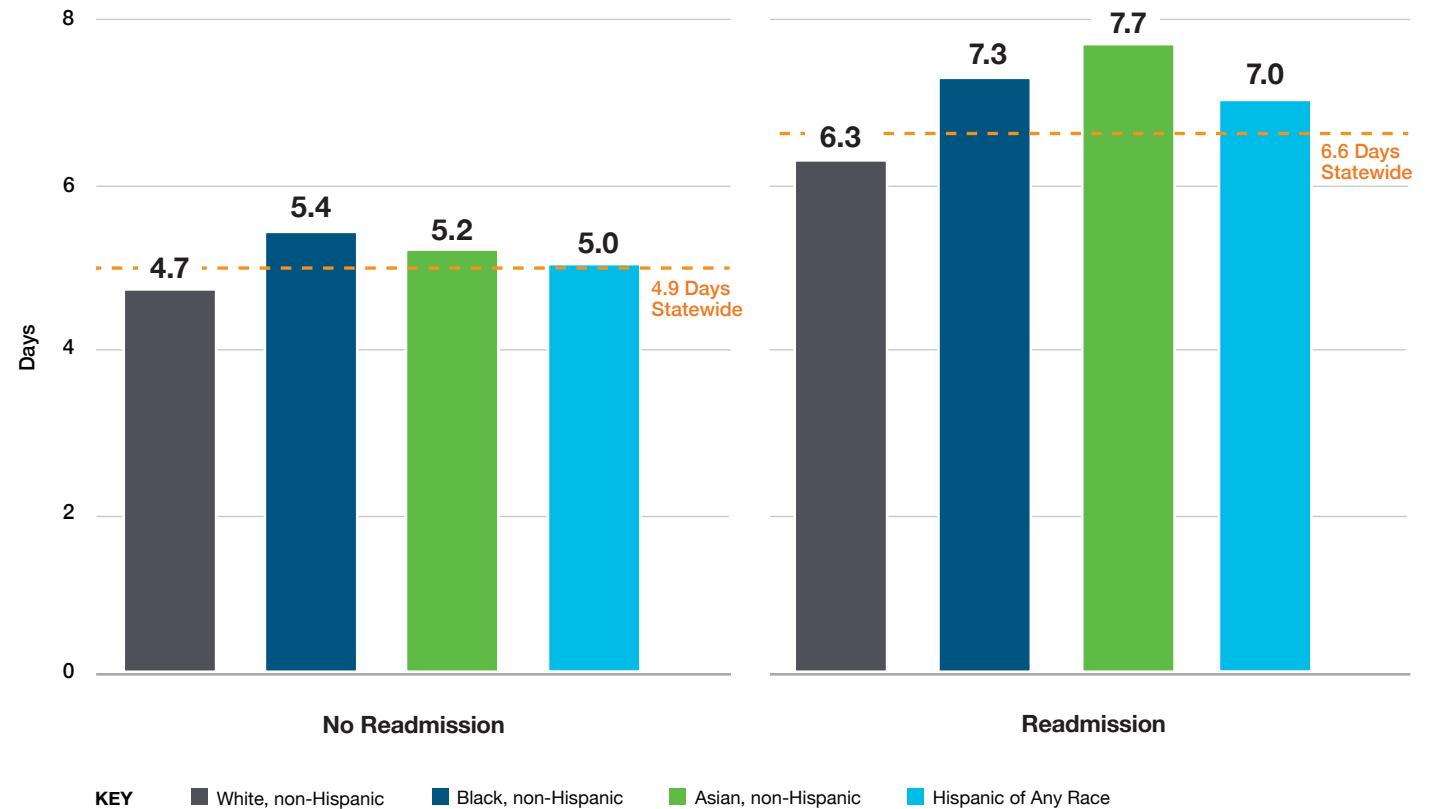
Notes: Excess length of stay (LOS) is defined as spending more than four hours in the emergency department. For more information about race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Average Length of Stay (ALOS) for Inpatient Discharges by Readmission Status and Race/Ethnicity

SFY 2021

The ALOS for discharges resulting in a readmission was consistently longer than for discharges that did not result in a readmission, particularly for non-Hispanic Asian and non-Hispanic Black patients (7.7 and 7.3 days, respectively).



Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric or primary psychiatric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Care Utilization by Race & Ethnicity and Select Characteristics

While differences in acute care utilization by race and ethnicity provide important insights about overall gaps in care, our understanding is further enhanced by more closely examining racial and ethnic subpopulations by other demographic characteristics like age, sex, or payer type.

This section presents analyses of the differences in inpatient and ED utilization for different racial and ethnic groups stratified by age, sex, and payer type. Key measures included are the number of inpatient discharges and ED visits, ALOS in the inpatient setting, ED visits associated with an excess length of stay, and readmission and revisit rates. For a complete set of measures by race and ethnicity and each demographic characteristic, please visit the [databook](#).

- Most inpatient discharges and ED visits for non-Hispanic Black, non-Hispanic Asian, and Hispanic patients were for non-elderly adults (patients aged 18-64).
- Elderly, non-Hispanic Black and non-Hispanic Asian patients had the highest proportion of ED visits associated with excess LOS, (54.2% and 52.9%, respectively), compared to other racial and ethnic groups.
- Regardless of age group or sex, non-Hispanic Black patients had the highest readmission and revisit rates compared to other racial and ethnic groups.
- Hispanic patients had the second highest revisit rates after non-Hispanic Black patients when examined by age and sex, compared to other racial and ethnic groups.

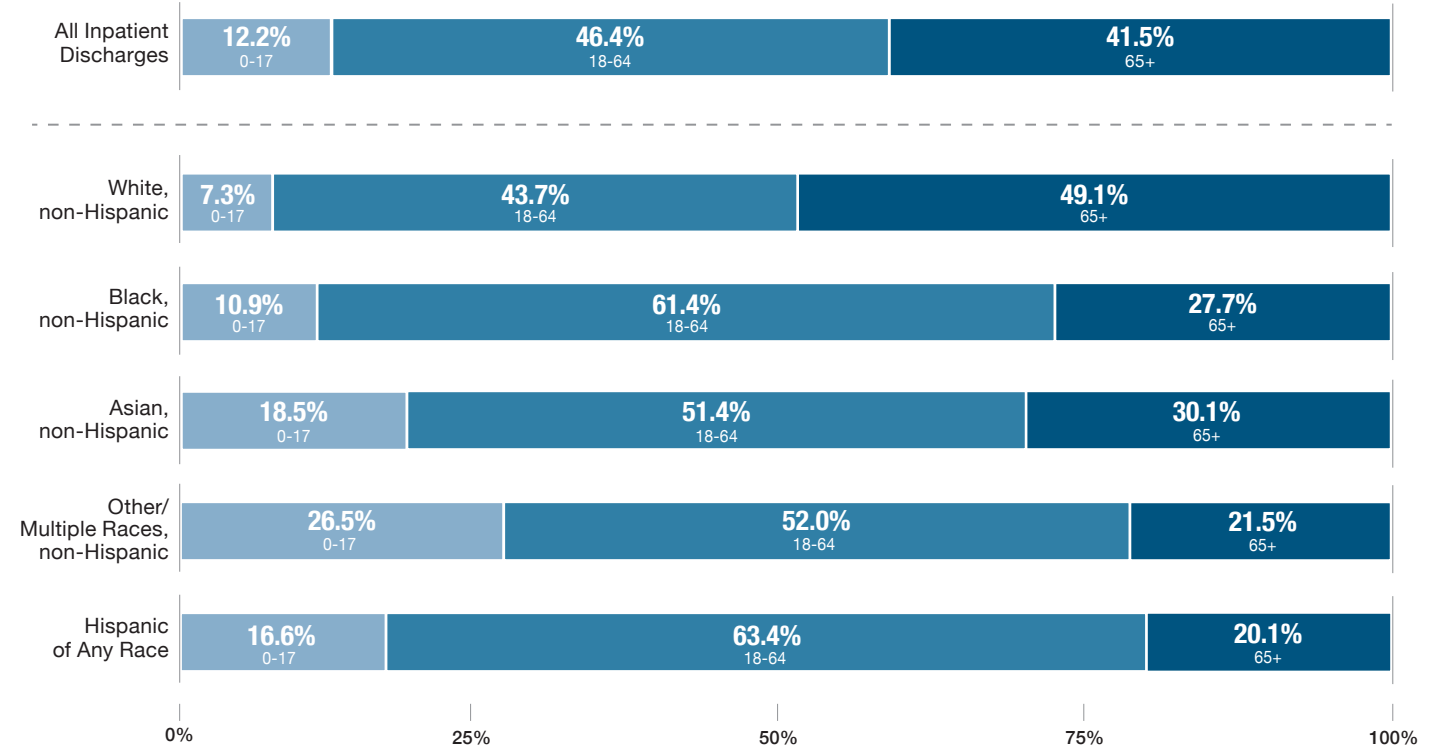
- Elderly, non-Hispanic Asian patients had readmission rates higher than elderly, non-Hispanic White patients (17.0% vs. 16.6%).
- Non-Hispanic Black and non-Hispanic Asian patients with Medicare had the longest ALOS in the inpatient setting compared to other racial and ethnic groups by payer type, at 6.9 and 6.2 days, respectively.

- Medicare patients had the highest readmission rates compared to other payer types, especially for non-Hispanic Black and Hispanic patients (21.7% vs. 20.4%, respectively). ■

Acute Hospital Utilization by Select Characteristics

Most inpatient discharges among patients who were non-Hispanic Black, non-Hispanic Asian or Hispanic were for non-elderly adults aged 18-64, compared to non-Hispanic White patients.

Hospital Inpatient Discharges by Race/Ethnicity and Age Group SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
0-17	38,660	6,270	4,027	6,362	11,199
18-64	232,264	35,490	11,215	12,493	42,793
65+	261,143	16,013	6,562	5,172	13,546

Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

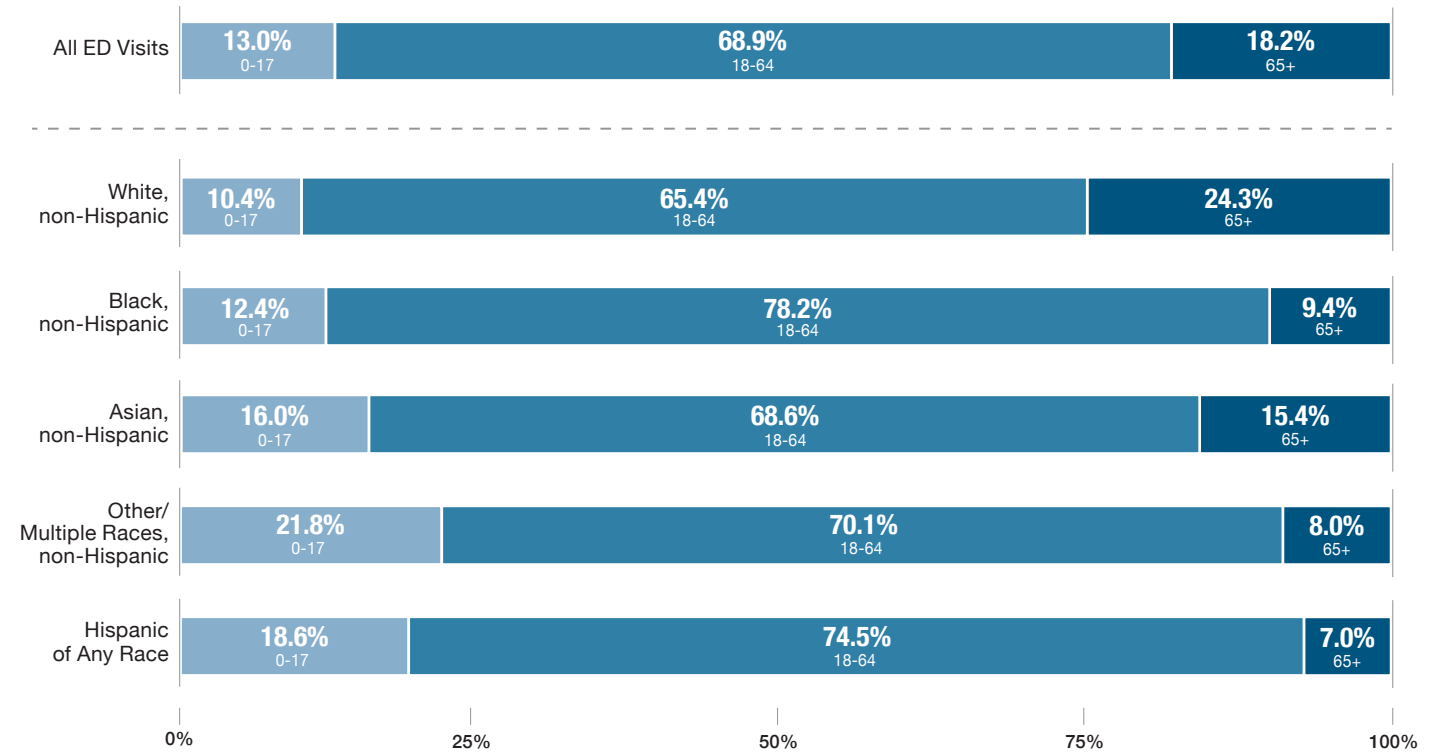
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Similarly, non-elderly adults accounted for a higher proportion of ED visits among non-Hispanic Black and Hispanic patients, compared to patients of other racial ethnic groups (78.2% and 74.5%, respectively).

Hospital Emergency Department Visits by Race/Ethnicity and Age Group

SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
0-17	117,554	27,916	6,872	26,705	57,320
18-64	742,280	176,798	29,406	85,975	230,094
65+	275,464	21,266	6,579	9,777	21,478

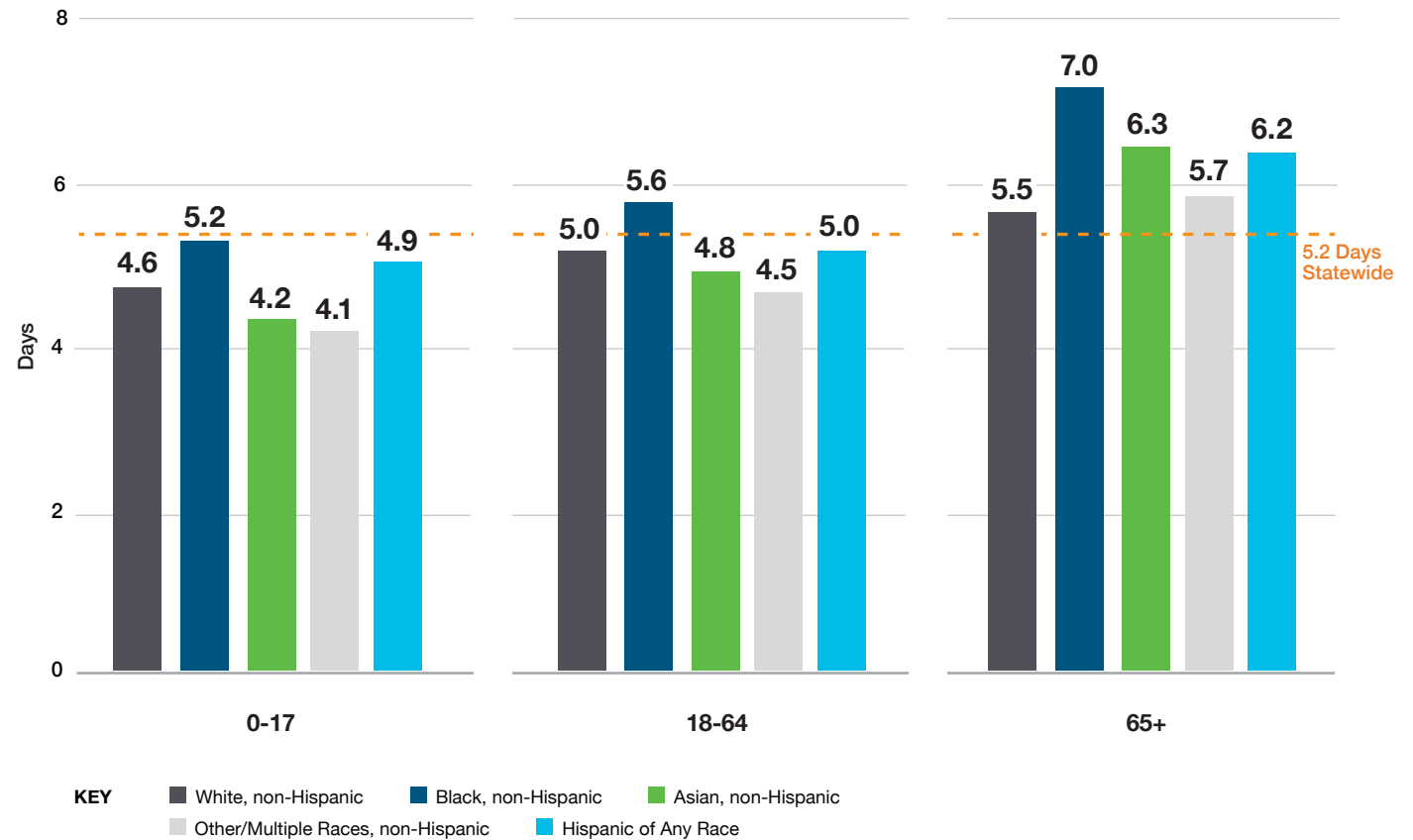
Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Average Length of Stay for Inpatient Discharges by Race/Ethnicity and Age Group

SFY 2021

Elderly patients 65 and older had longer ALOS for inpatient discharges compared to other age groups. Among all age groups, non-Hispanic Black patients had the longest ALOS compared to other racial and ethnic groups. Elderly, non-Hispanic Black patients had the longest ALOS of all racial and ethnic age groups, at 7.0 days.



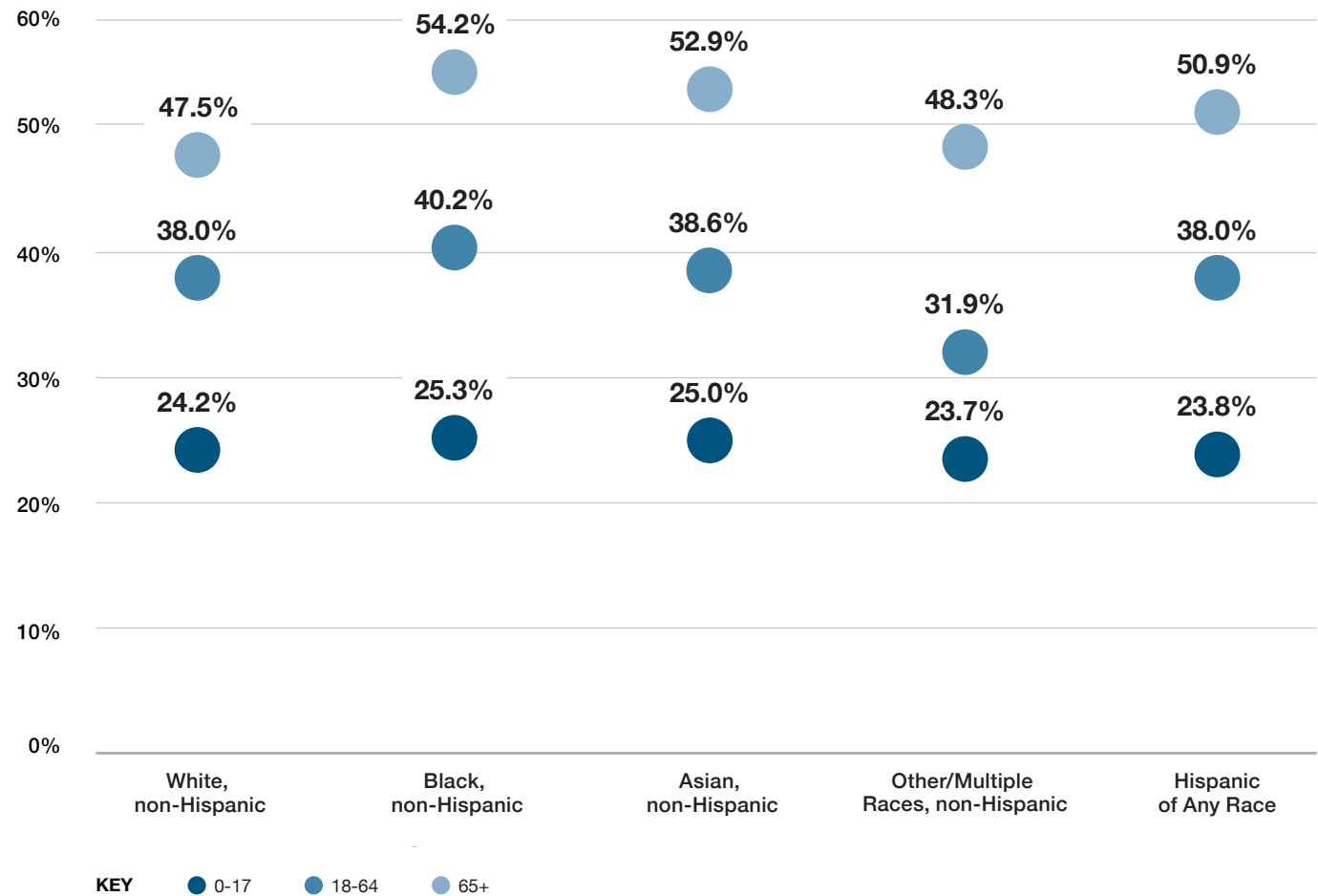
Notes: For more information about race/ethnicity categories, see [technical appendix](#).
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Similarly, elderly patients consistently had a higher proportion of ED visits associated with excess LOS, compared to younger patients. Elderly, non-Hispanic Black patients had the highest proportion of ED visits associated with excess LOS, followed by elderly, non-Hispanic Asian patients (54.2% and 52.9%, respectively).

Excess Length of Stay for Hospital Emergency Department Visits by Race/Ethnicity and Age Group

SFY 2021



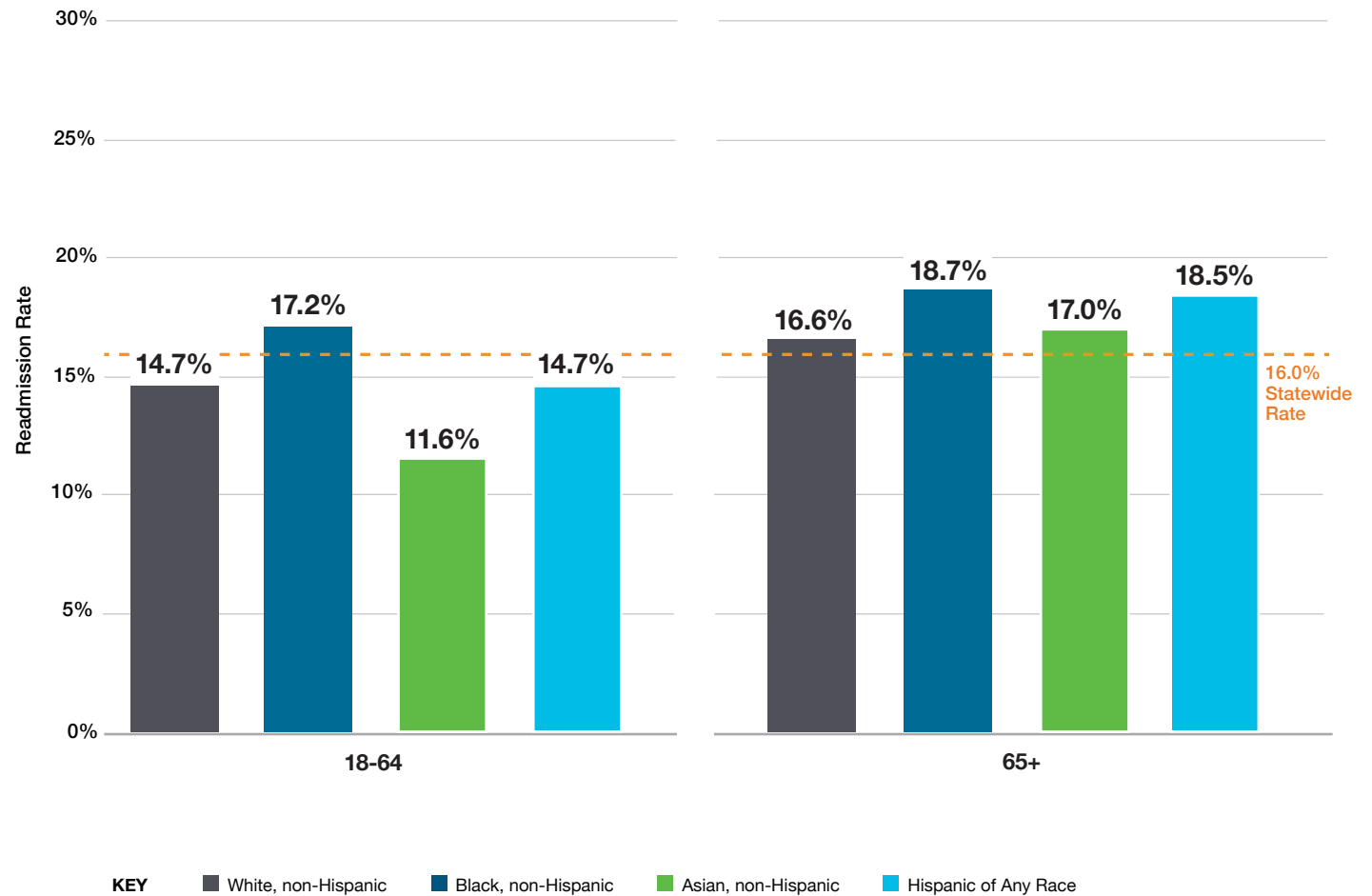
Notes: Excess length of stay (LOS) is defined as spending more than four hours in the emergency department. For more information about race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Statewide All-Payer Readmission Rates by Race/Ethnicity and Age Group

SFY 2021

Elderly patients had higher readmission rates, on average, compared to non-elderly adults. Non-Hispanic Black patients had the highest readmission rates among both age groups compared to other racial and ethnic groups, at 17.2% for non-elderly adults and 18.7% for elderly adults. Elderly, Hispanic patients had the second highest readmission rates, at 18.5%, while non-elderly, non-Hispanic Asian patients had the lowest readmission rates, at 11.6%. Elderly, non-Hispanic Asian patients had readmission rates higher than elderly, non-Hispanic White patients (17.0% vs. 16.6%, respectively).



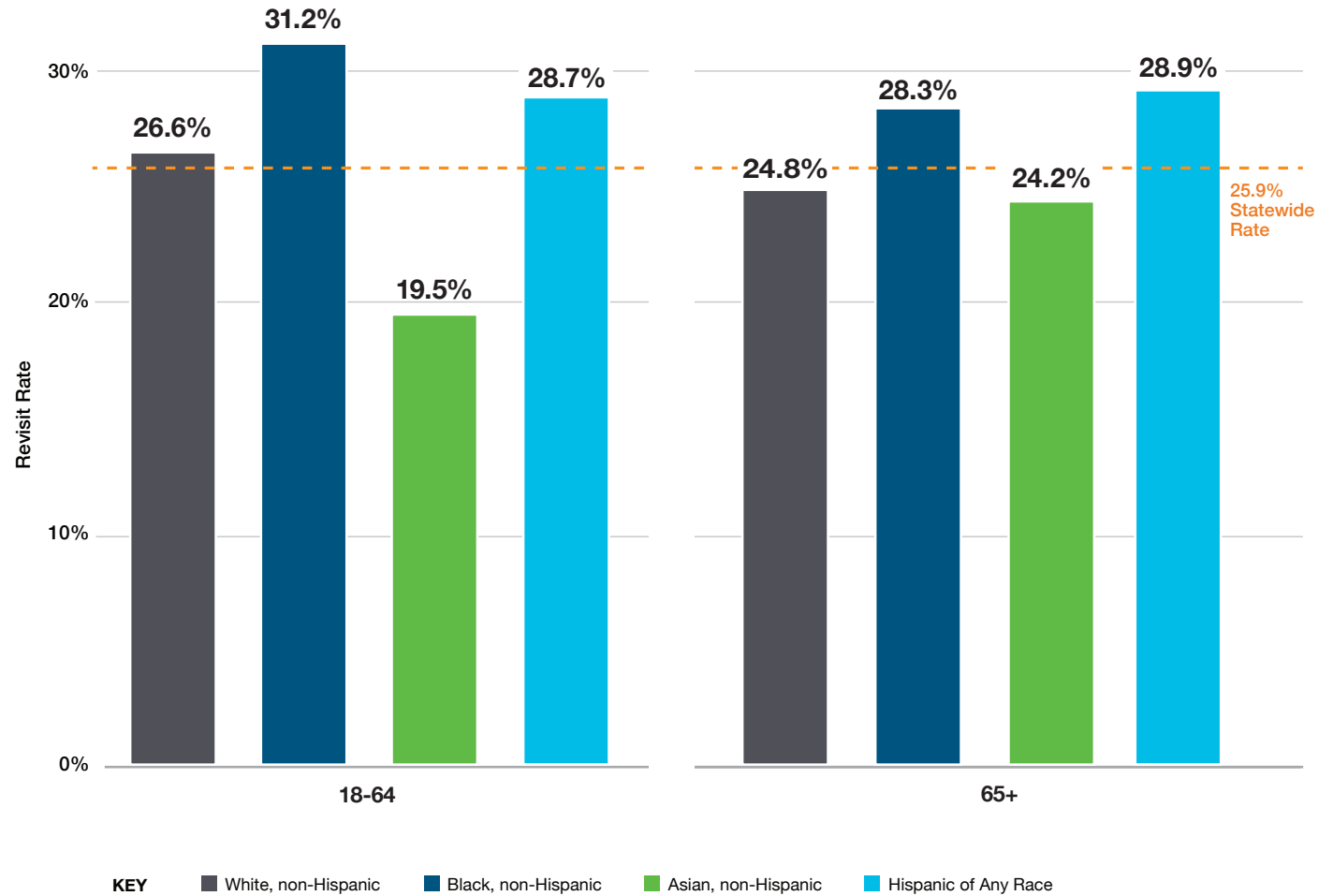
Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric or primary psychiatric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Statewide All-Payer 30-Day Revisit Rates by Race/Ethnicity and Age Group

SFY 2021

Unlike readmission rates, revisit rates varied greatly by age and racial and ethnic group. Non-elderly, non-Hispanic Black and non-elderly, Hispanic patients had the highest revisit rates compared to other racial and ethnic age groups, at 31.2% and 28.7%, respectively. Non-elderly, non-Hispanic Asian patients had the lowest revisit rates compared to other racial and ethnic age groups, at 19.5%.



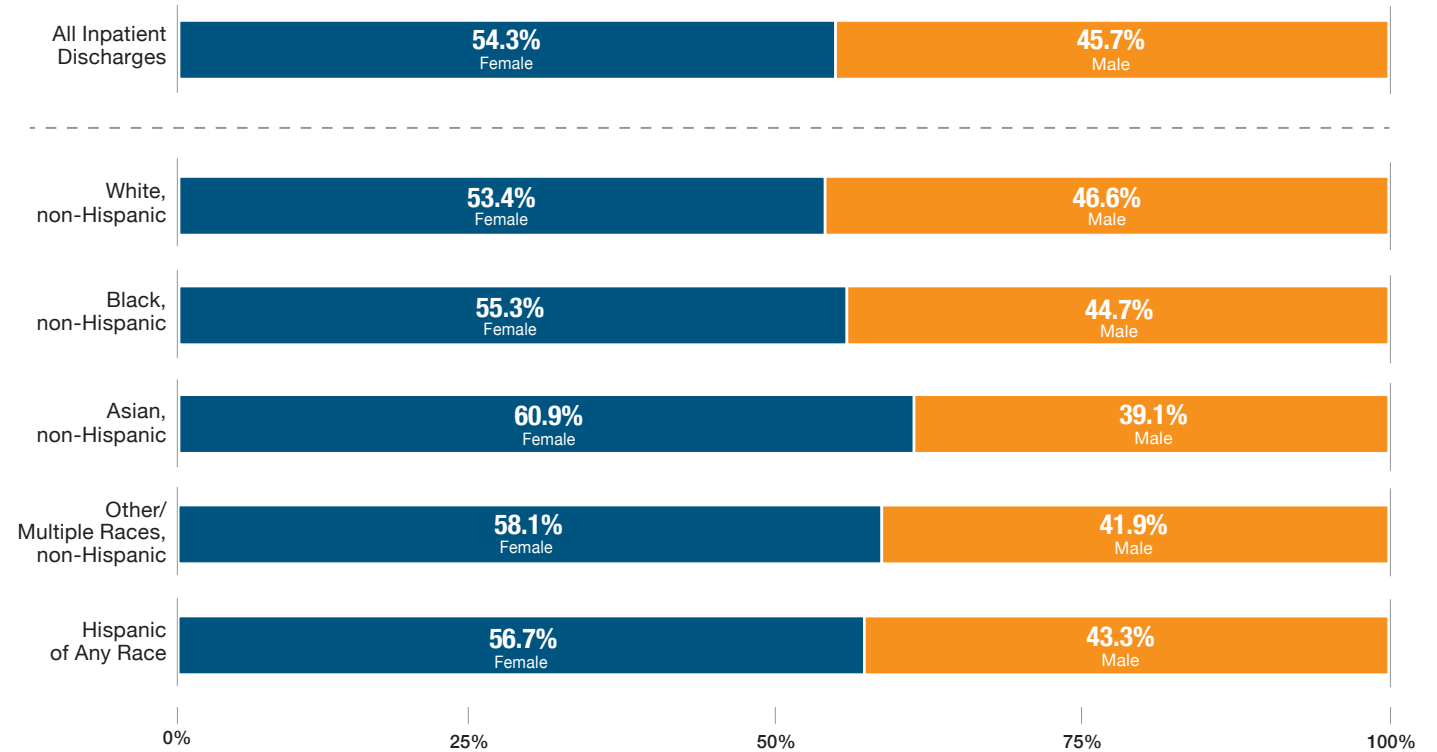
Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

For all racial ethnic groups, female patients accounted for over half of inpatient discharges. Female patients accounted for a greater share of inpatient discharges among non-Hispanic Asian patients (60.9%) compared to other racial and ethnic groups.

Hospital Inpatient Discharges by Race/Ethnicity and Sex SFY 2021



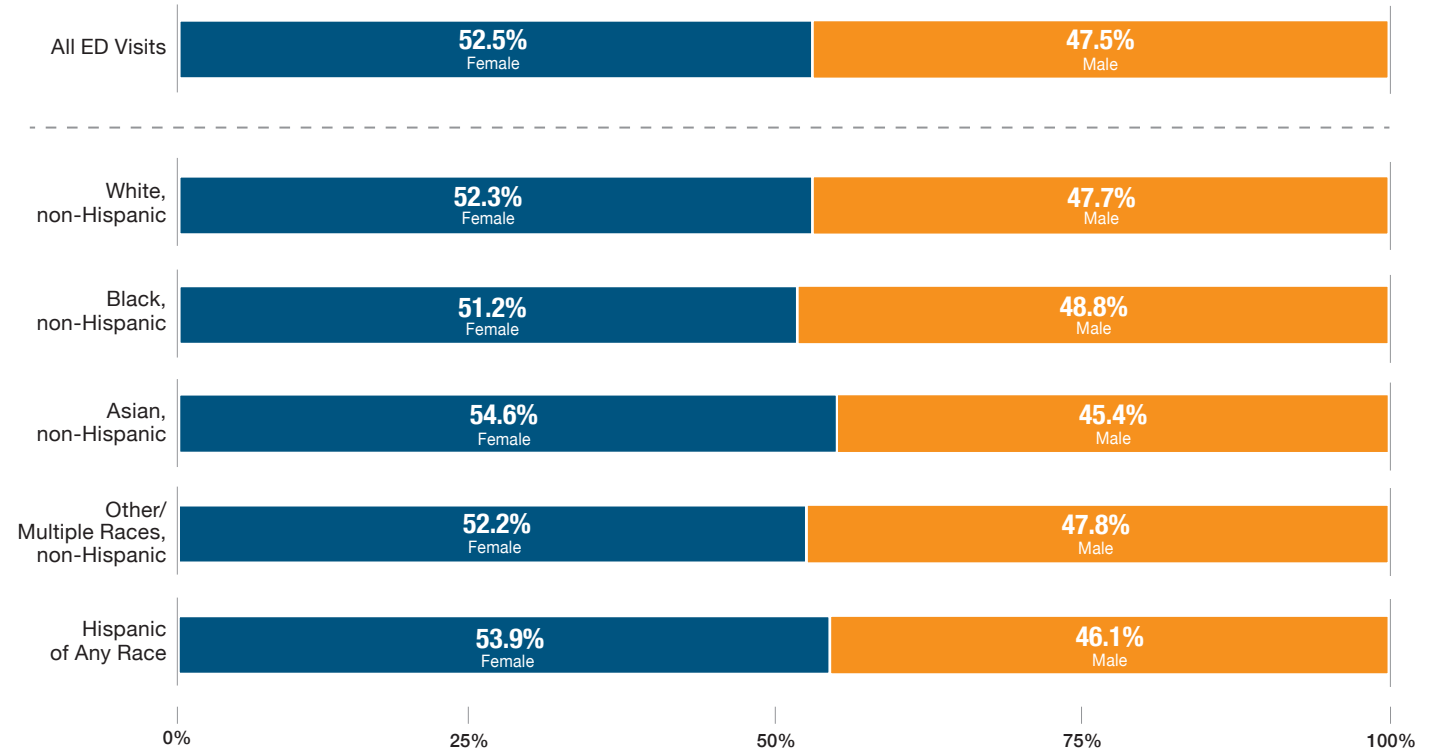
	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Female	284,051	31,927	13,273	13,963	38,299
Male	248,009	25,842	8,531	10,063	29,240

Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

In the ED, female and male patients accounted for a similar proportion of visits. Like the inpatient setting, female patients accounted for a higher share of ED visits (54.6%) among non-Hispanic Asian patients compared to other racial and ethnic groups.

Hospital Emergency Department Visits by Race/Ethnicity and Sex SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Female	594,256	115,682	23,418	64,000	166,354
Male	541,018	110,307	19,440	58,600	142,551

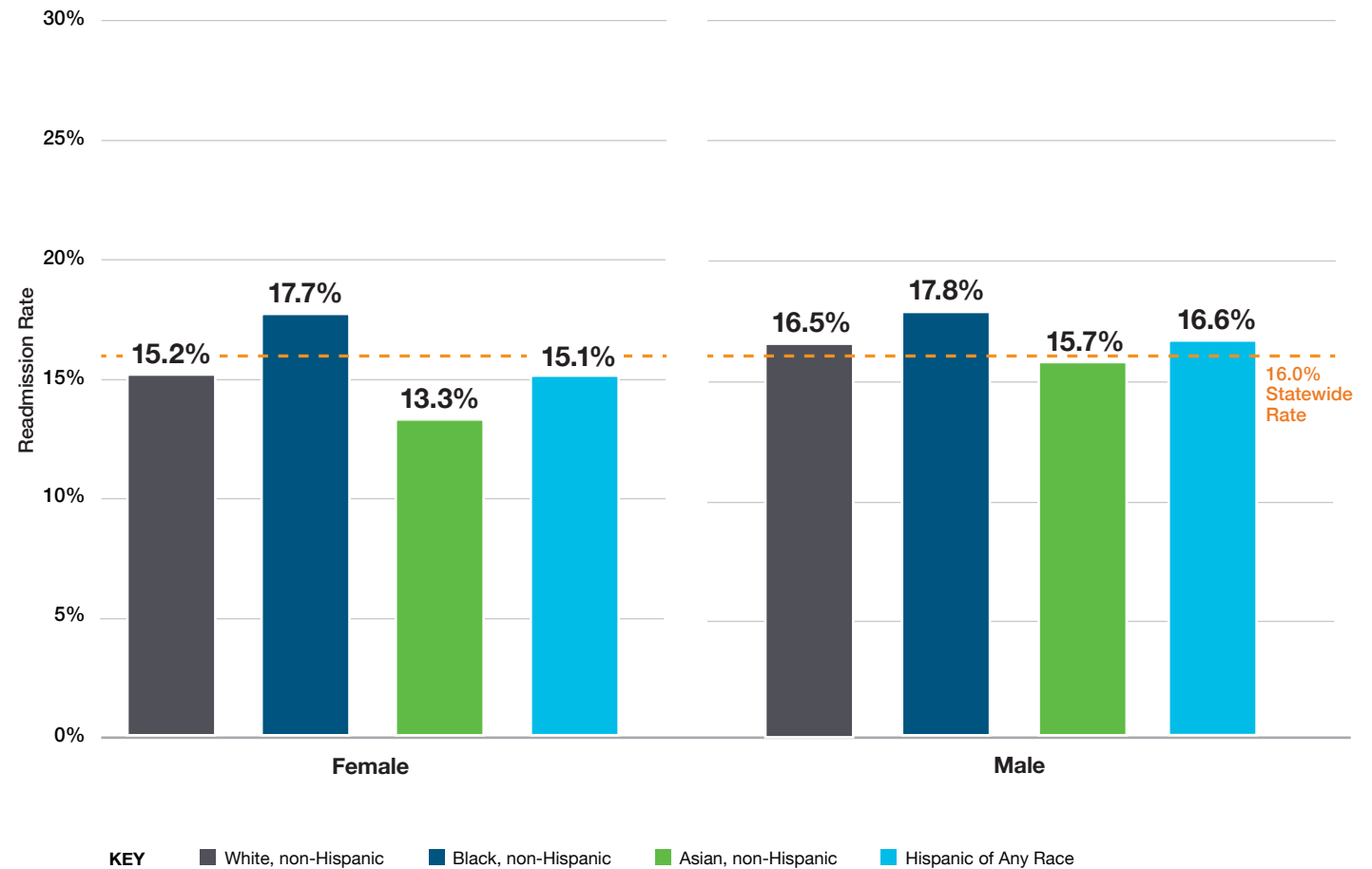
Notes: Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Male patients had higher readmission rates than female patients for most racial and ethnic groups. For both sexes, non-Hispanic Black patients had higher readmission rates than patients of other racial and ethnic groups. Female, non-Hispanic Asian patients had the lowest readmission rates compared to other racial and ethnic groups, at 13.3%.

Statewide All-Payer Readmission Rates by Race/Ethnicity and Sex SFY 2021



Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric or primary psychiatric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

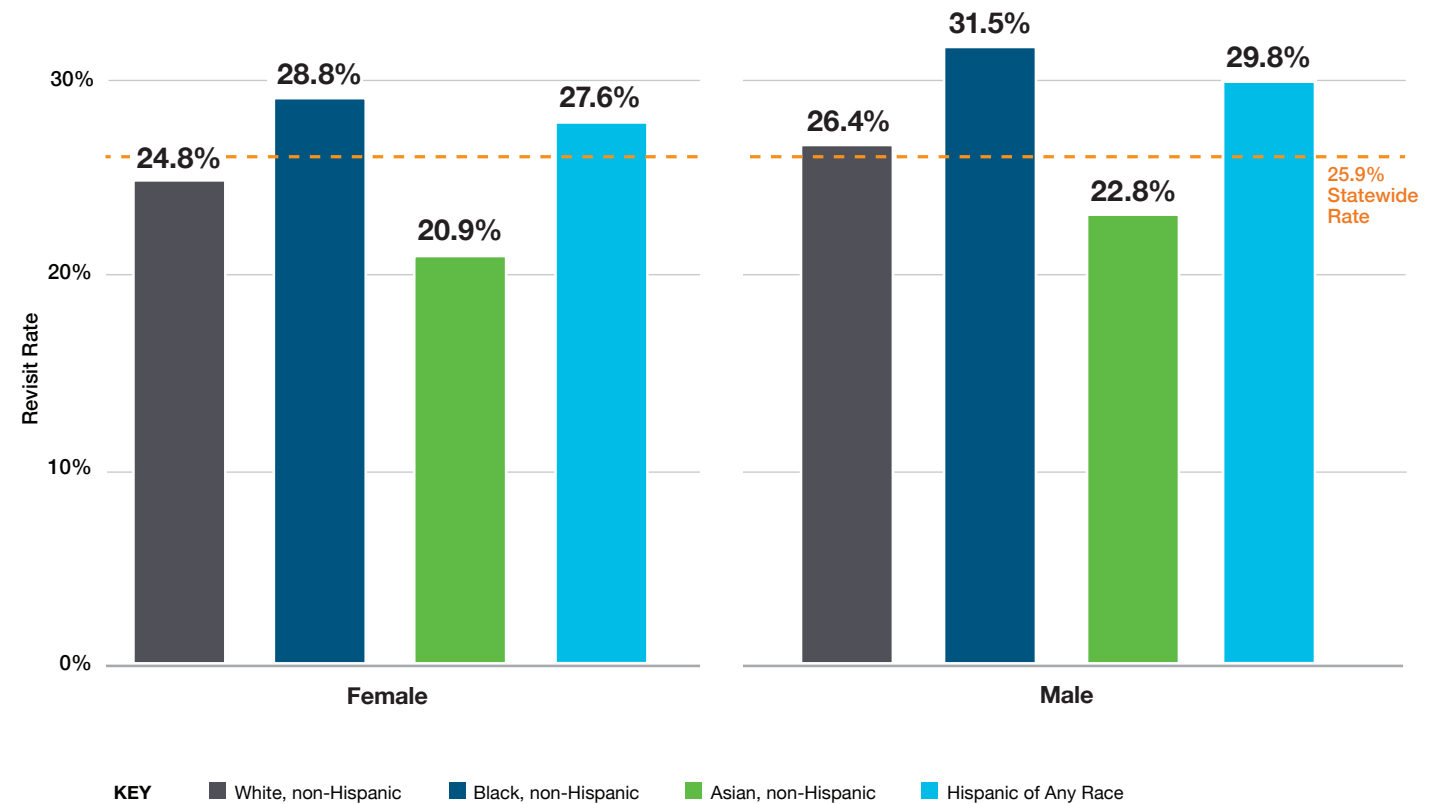
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Revisit rates varied greatly for both sexes by racial and ethnic group. Non-Hispanic Black and Hispanic patients had higher revisit rates than other racial ethnic groups for both sexes, at 31.5% and 29.8%, respectively, for male patients. Non-Hispanic Asian patients had the lowest revisit rates for both sexes compared to other racial and ethnic groups, at 20.9% for female patients and 22.8% for male patients.

Statewide All-Payer 30-Day Revisit Rates by Race/Ethnicity and Sex

SFY 2021



Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

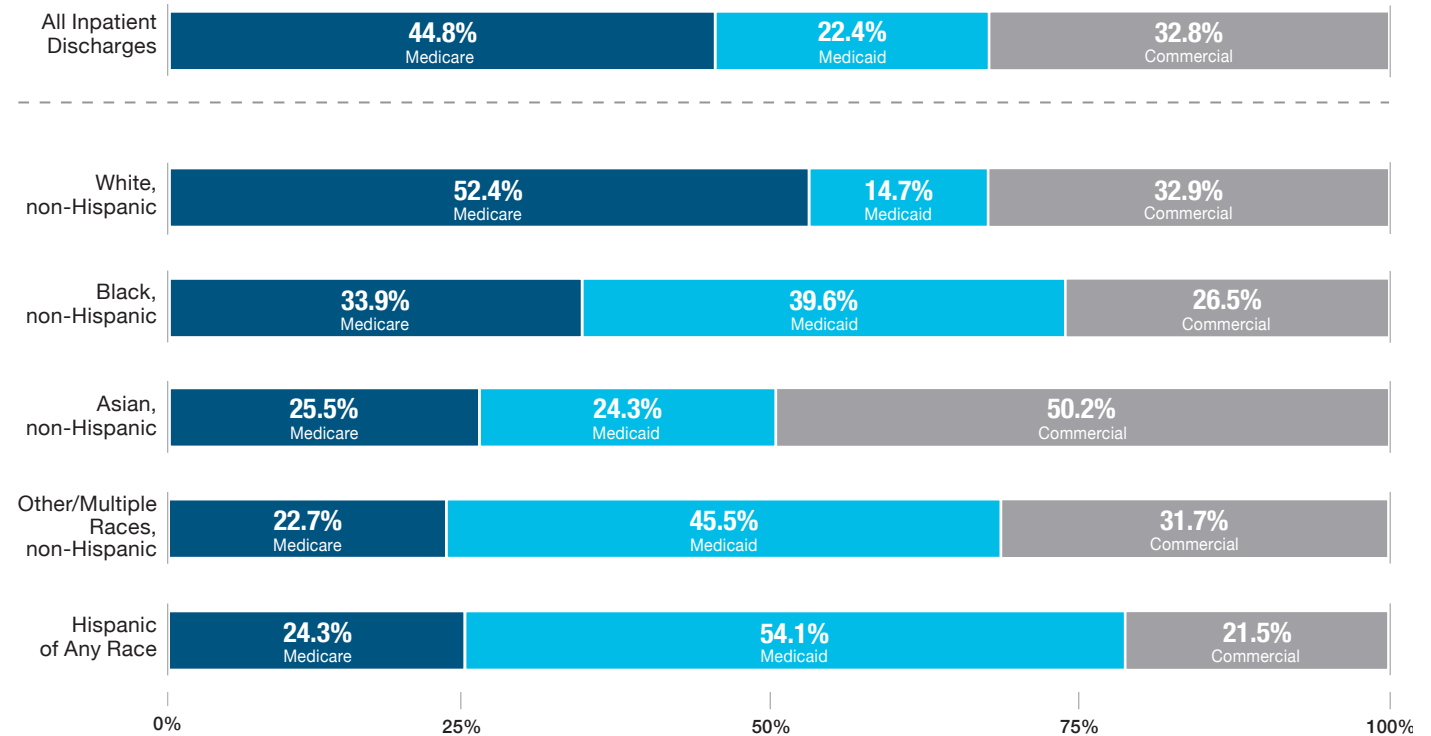
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

A higher share (54.1%) of inpatient discharges for Hispanic patients had an expected primary payer type of Medicaid, compared to non-Hispanic White patients (14.7%). Half (50.2%) of inpatient discharges for non-Hispanic Asian patients had commercial payers, compared to non-Hispanic White patients (32.9%).

Hospital Inpatient Discharges by Race/Ethnicity and Expected Primary Payer Type

SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Medicare	269,314	17,811	5,384	5,218	15,548
Medicaid	75,409	20,826	5,137	10,440	34,602
Commercial	168,943	13,963	10,623	7,284	13,766

Notes: Self-pay and other payer categories are excluded. Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

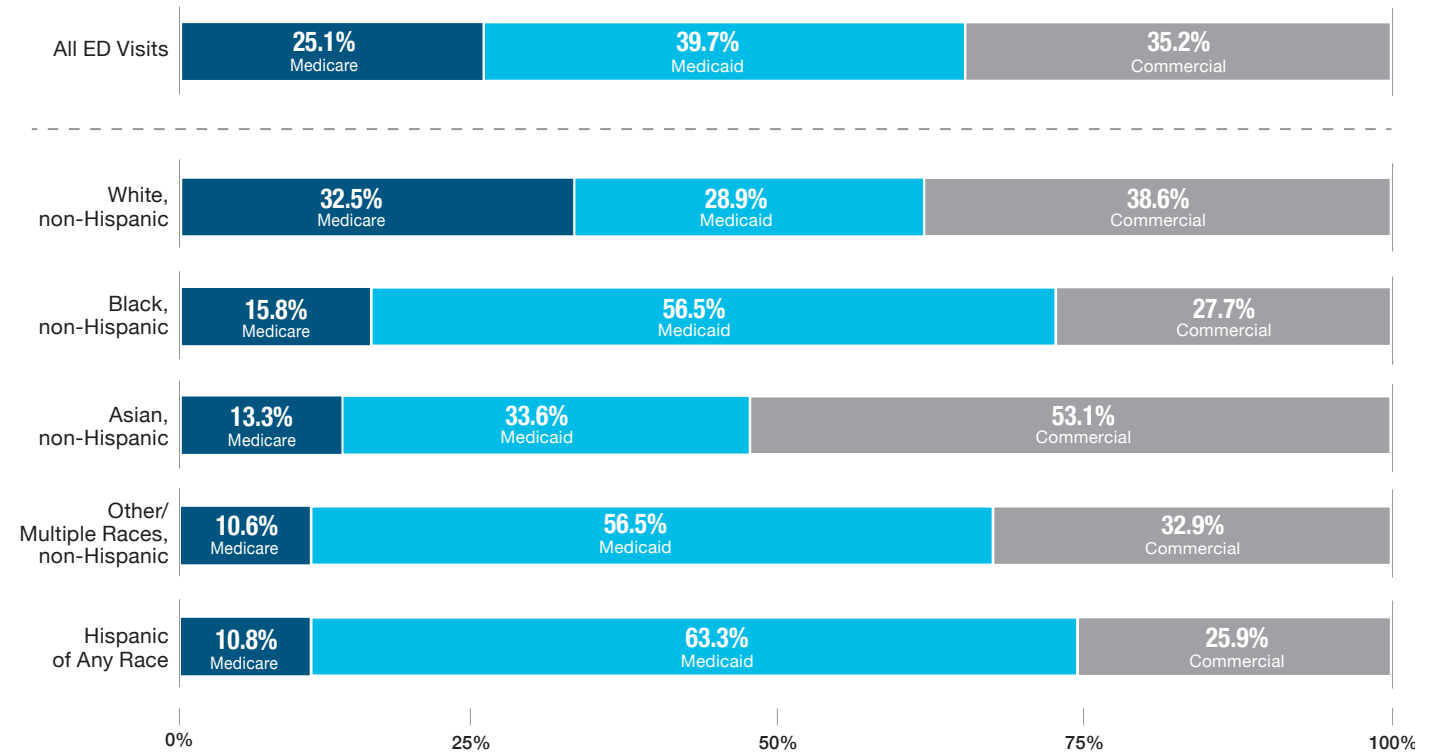
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

A greater share of ED visits for Hispanic and non-Hispanic Black patients were associated with Medicaid, compared to non-Hispanic White patients (63.3%, 56.5% and 28.9%, respectively). Non-Hispanic Asian patients had a greater share of ED visits with commercial payers compared to non-Hispanic White patients (53.1% vs. 38.6%, respectively).

Hospital Emergency Department Visits by Race/Ethnicity and Expected Primary Payer Type

SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Medicare	284,128	25,073	4,202	9,184	24,860
Medicaid	252,378	89,961	10,652	48,776	145,052
Commercial	336,617	44,049	16,805	28,356	59,345

Notes: Self-pay and other payer categories are excluded. Percentages may not sum to 100% due to rounding. For more information about race/ethnicity categories, see [technical appendix](#).

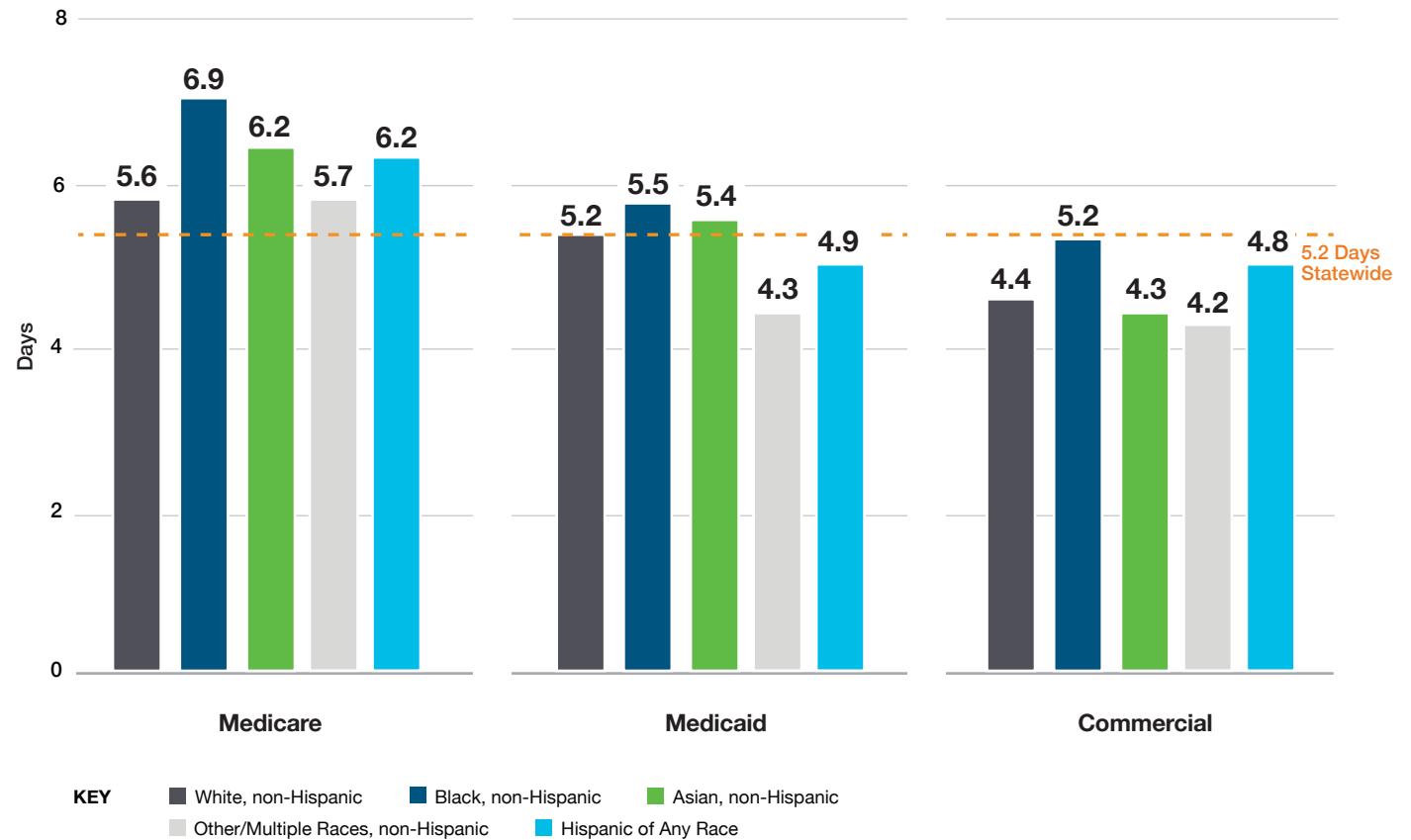
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

The ALOS for discharges associated with Medicare was longer compared to discharges among the Medicaid and commercial populations. Non-Hispanic Black and non-Hispanic Asian patients with Medicare had the longest ALOS compared to other racial and ethnic groups by payer type, at 6.9 and 6.2 days, respectively.

Average Length of Stay for Inpatient Discharges by Race/Ethnicity and Expected Primary Payer Type

SFY 2021



Notes: Self-pay and other payer categories are excluded. For more information about race/ethnicity categories, see [technical appendix](#).

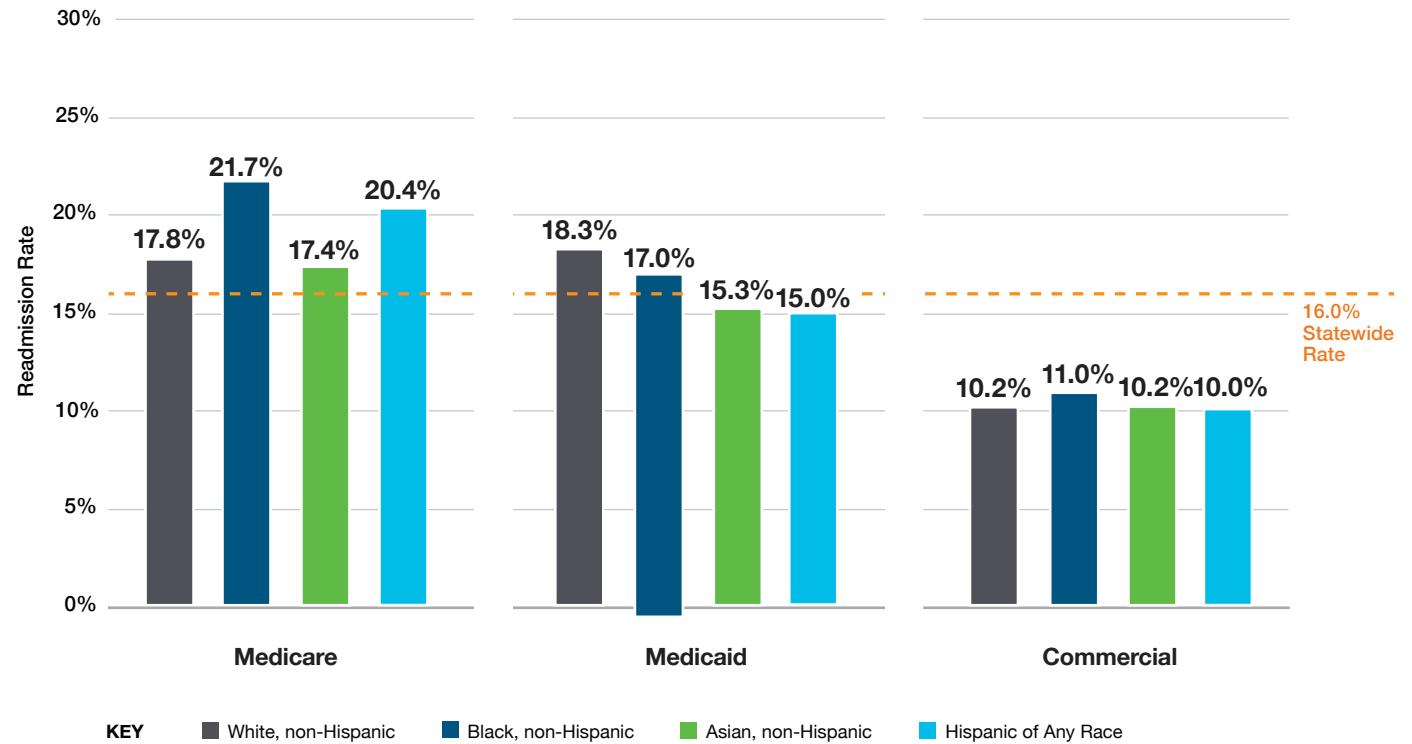
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Medicare patients had the highest readmission rates compared to other payer types, especially for non-Hispanic Black and Hispanic patients (21.7% and 20.4%, respectively). Among the Medicaid population, non-Hispanic Black patients had the second highest readmission rate after non-Hispanic White patients (17.0% vs. 18.3%, respectively). Readmission rates for patients with commercial insurance were consistently low for patients of all racial ethnic groups.

Statewide All-Payer Readmission Rates by Race/Ethnicity and Expected Primary Payer Type

SFY 2021



Note: Self-pay and other payer categories are excluded. Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric or primary psychiatric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

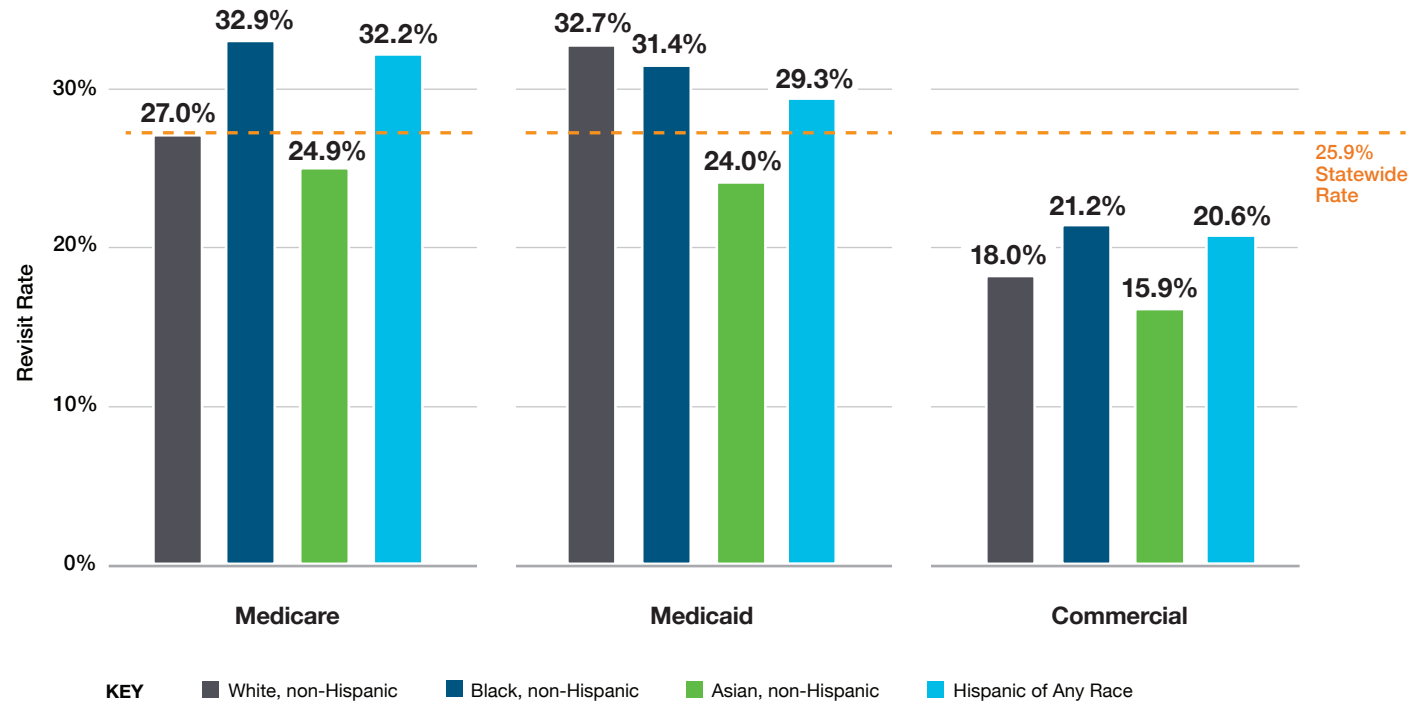
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Select Characteristics

Medicare and Medicaid patients had the highest revisit rates by payer type. Non-Hispanic Black and Hispanic patients with Medicare had the highest revisit rates compared to other racial and ethnic groups, at 32.9% and 32.2%, respectively. Among the Medicaid population, non-Hispanic Black patients had the second highest revisit rates compared to other racial and ethnic groups (31.4%). Non-Hispanic Asian patients had revisit rates lower than all other racial and ethnic groups, regardless of payer type.

Statewide All-Payer 30-Day Revisit Rates by Race/Ethnicity and Primary Expected Payer Type

SFY 2021



Note: Self-pay and other payer categories are excluded. Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric care. For more information about the measure and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Care Utilization by Race & Ethnicity and Behavioral Health Conditions

Patients diagnosed with behavioral health conditions are an important population to consider when examining acute care utilization because of their frequent encounters with the health care system and the high costs associated with managing their complex conditions. Patients with behavioral health conditions are more likely to present in the ED to receive routine care and are generally more likely to return to the acute care setting, in part due to challenges accessing necessary services and effectively coordinating their care.^{22,23} These trends among patients with behavioral health conditions are likely exacerbated for certain racial and ethnic groups; understanding these patterns for different patient populations will better equip policymakers and the delivery system more broadly to target support and solutions.

This section examines acute care utilization in the inpatient and emergency department settings, as well as readmissions to the inpatient setting for patients with behavioral health conditions by race and ethnicity. Among the inpatient population, patients are considered to have a behavioral condition if they have either a primary or secondary diagnosis related to behavioral health. Within the ED, only primary diagnoses are used to identify patients with a behavioral health condition. Within the readmissions patient population, patients are identified as having a behavioral health condition if they had any behavioral health related primary or secondary diagnoses on the eligible discharge or within the past 12 months. This section examines the number of inpatient discharges and ED visits, ALOS in the inpatient setting, ED visits associated with an excess length of stay, and readmission rates by race and ethnicity.

- Among inpatient discharges for behavioral health conditions, non-Hispanic Asian patients had the longest ALOS, at 8.0 days, compared to other racial and ethnic groups
- Among ED visits for behavioral health conditions, non-Hispanic Black and non-Hispanic Asian patients had the highest share of visits associated with an excess LOS (69.7% and 67.9%, respectively).

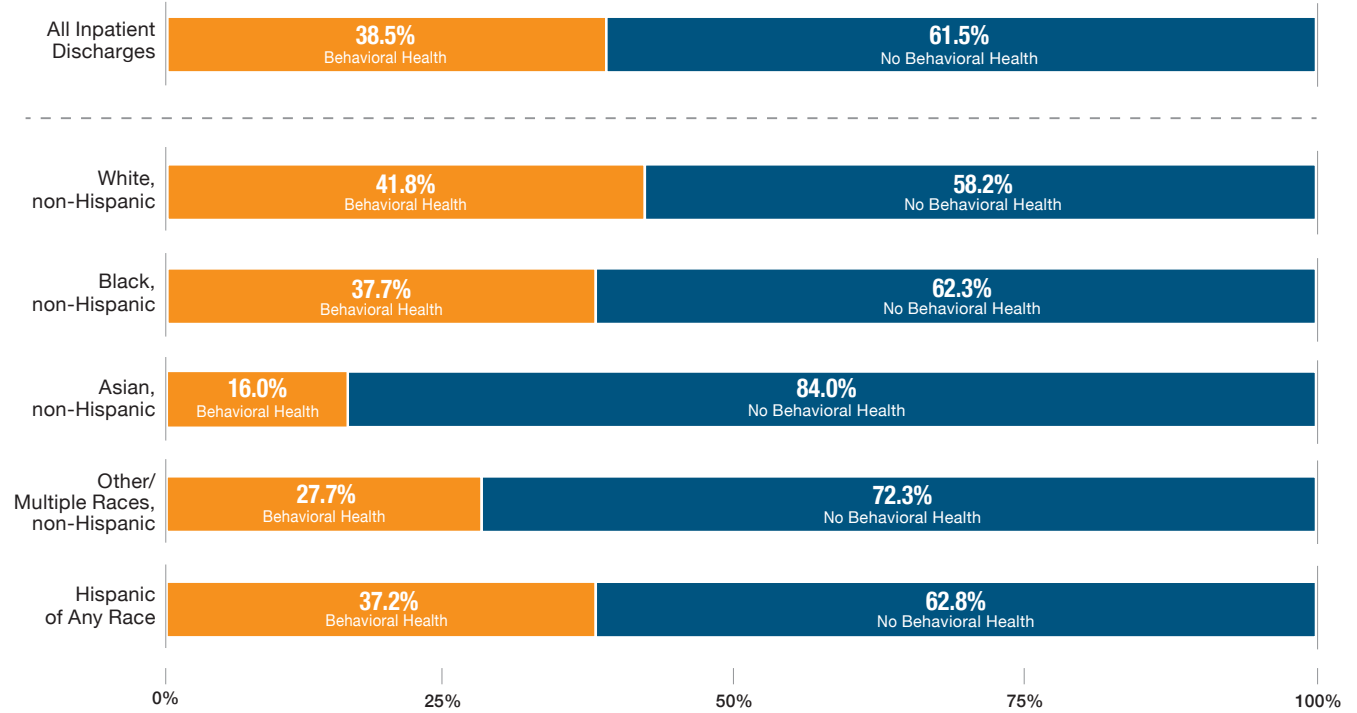
- Non-Hispanic Black patients with behavioral health conditions had the highest readmission rate compared to other racial and ethnic groups, at 23.2%. ■

Acute Hospital Utilization by Behavioral Health

Non-Hispanic Black and Hispanic patients had a lower proportion of inpatient discharges associated with behavioral health conditions compared to non-Hispanic White patients (37.7%, 37.2% and 41.8%, respectively). Non-Hispanic Asian patients had a lower share of discharges associated with behavioral health conditions compared to other racial and ethnic groups (16.0%).

Hospital Inpatient Discharges by Race/Ethnicity and Behavioral Health

SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Behavioral Health	225,439	21,893	3,518	6,669	25,298
No Behavioral Health	313,379	36,188	18,405	17,435	42,723

Notes: Percentages may not sum to 100% due to rounding. For more information about behavioral health and race/ethnicity categories, see [technical appendix](#).

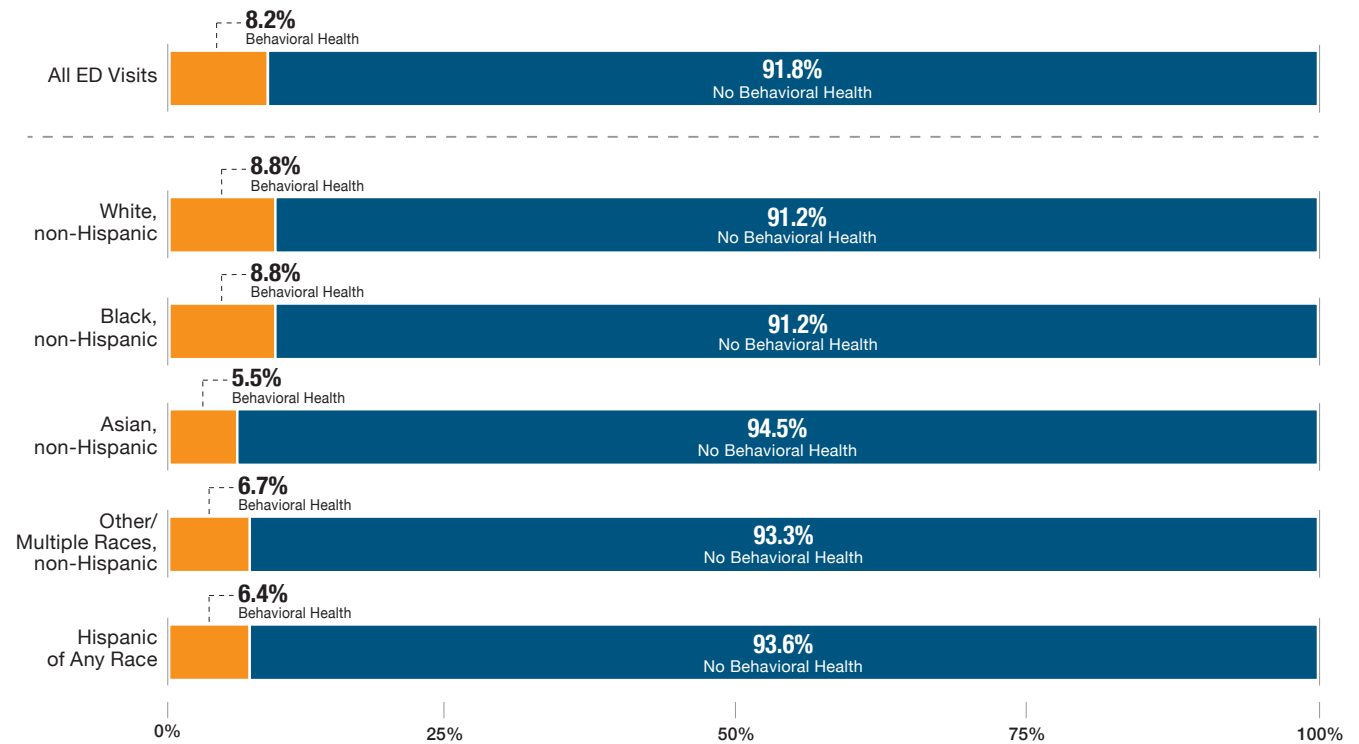
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Behavioral Health

Non-Hispanic Black patients had a similar share of ED visits for behavioral health conditions compared to non-Hispanic White patients (8.8% among both groups).

Hospital Emergency Department Visits by Race/Ethnicity and Behavioral Health

SFY 2021



	White, non-Hispanic	Black, non-Hispanic	Asian, non-Hispanic	Other/Multiple Races, non-Hispanic	Hispanic of Any Race
Behavioral Health	100,123	19,960	2,355	8,160	19,908
No Behavioral Health	1,035,207	206,049	40,504	114,482	289,002

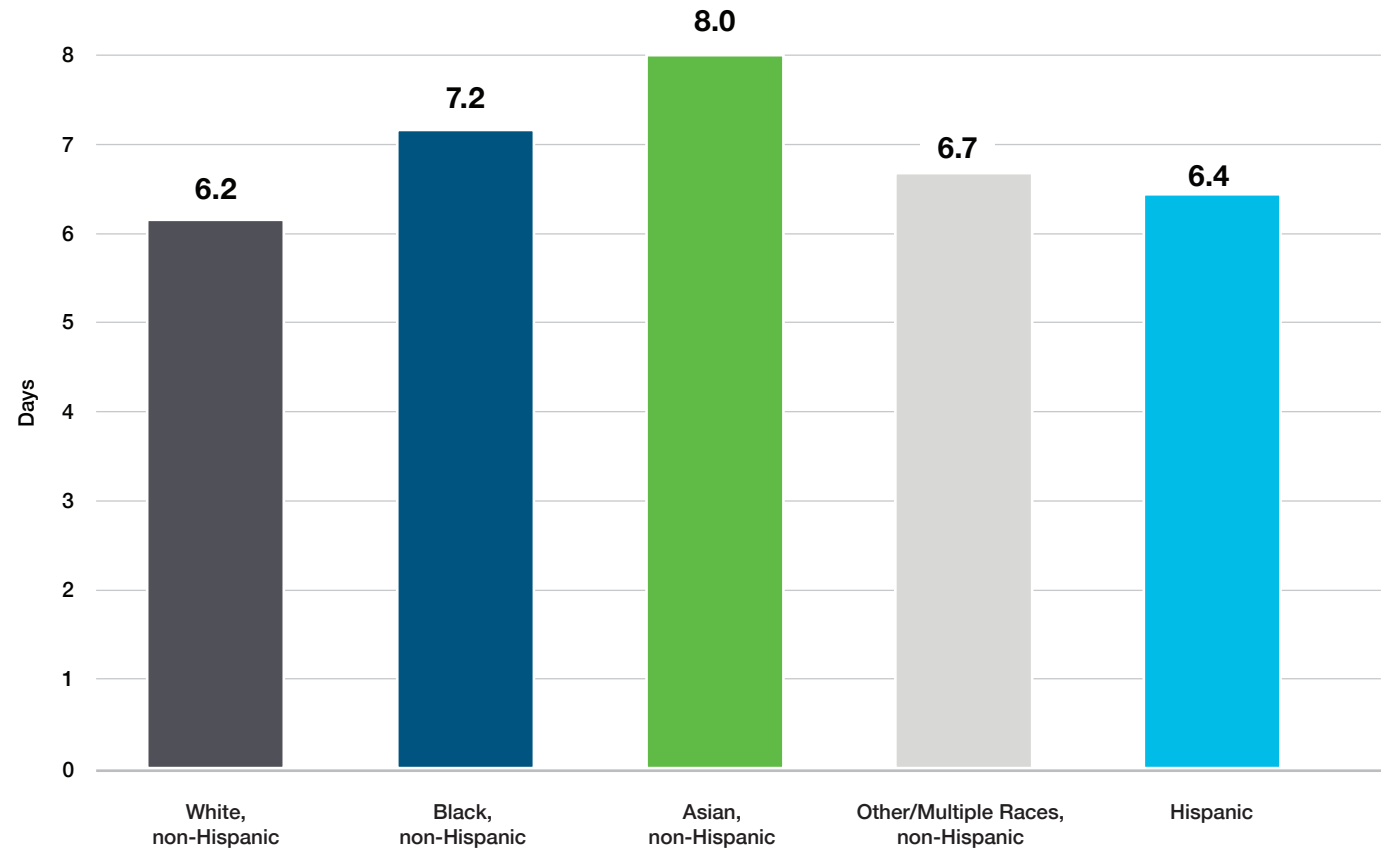
Notes: Percentages may not sum to 100% due to rounding. For more information about behavioral health and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Average Length of Stay for Inpatient Discharges by Race/Ethnicity Among Patients with Behavioral Health Conditions

SFY 2021

Among inpatient discharges for behavioral health conditions, non-Hispanic Asian patients had the longest ALOS, at 8.0 days, compared to other racial and ethnic groups. Non-Hispanic Black patients with behavioral health conditions had the second longest ALOS compared to other racial and ethnic groups, at 7.2 days.



Notes: For more information about behavioral health and race/ethnicity categories, see [technical appendix](#).

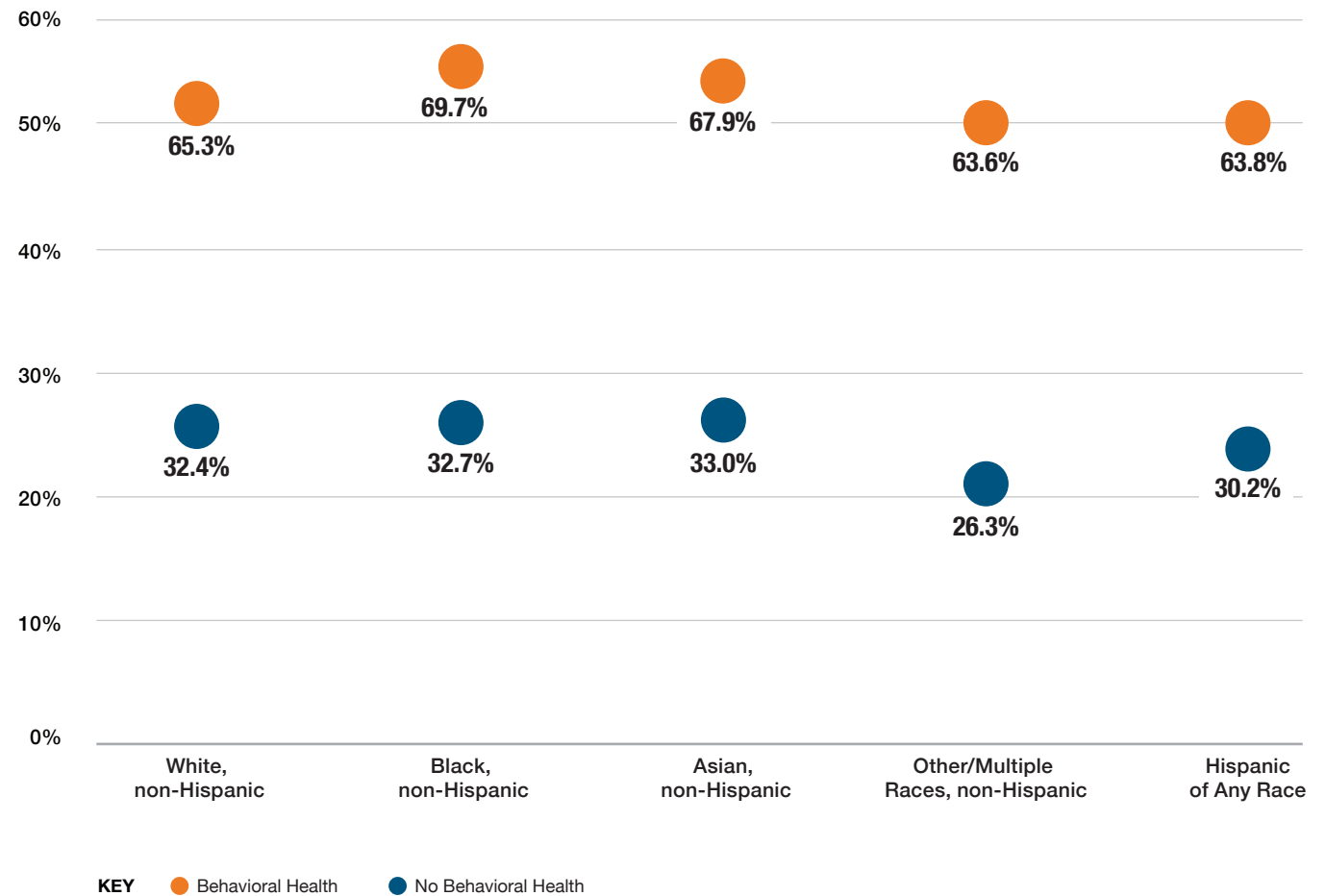
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Behavioral Health

Among ED visits for behavioral health conditions, non-Hispanic Black and non-Hispanic Asian patients had the highest share of visits associated with excess LOS (69.7% and 67.9%, respectively).

Excess Length of Stay for Hospital Emergency Department Visits by Race/Ethnicity and Behavioral Health

SFY 2021



Notes: Excess length of stay (LOS) is defined as spending more than four hours in the emergency department. For more information about behavioral health and race/ethnicity categories, see [technical appendix](#).

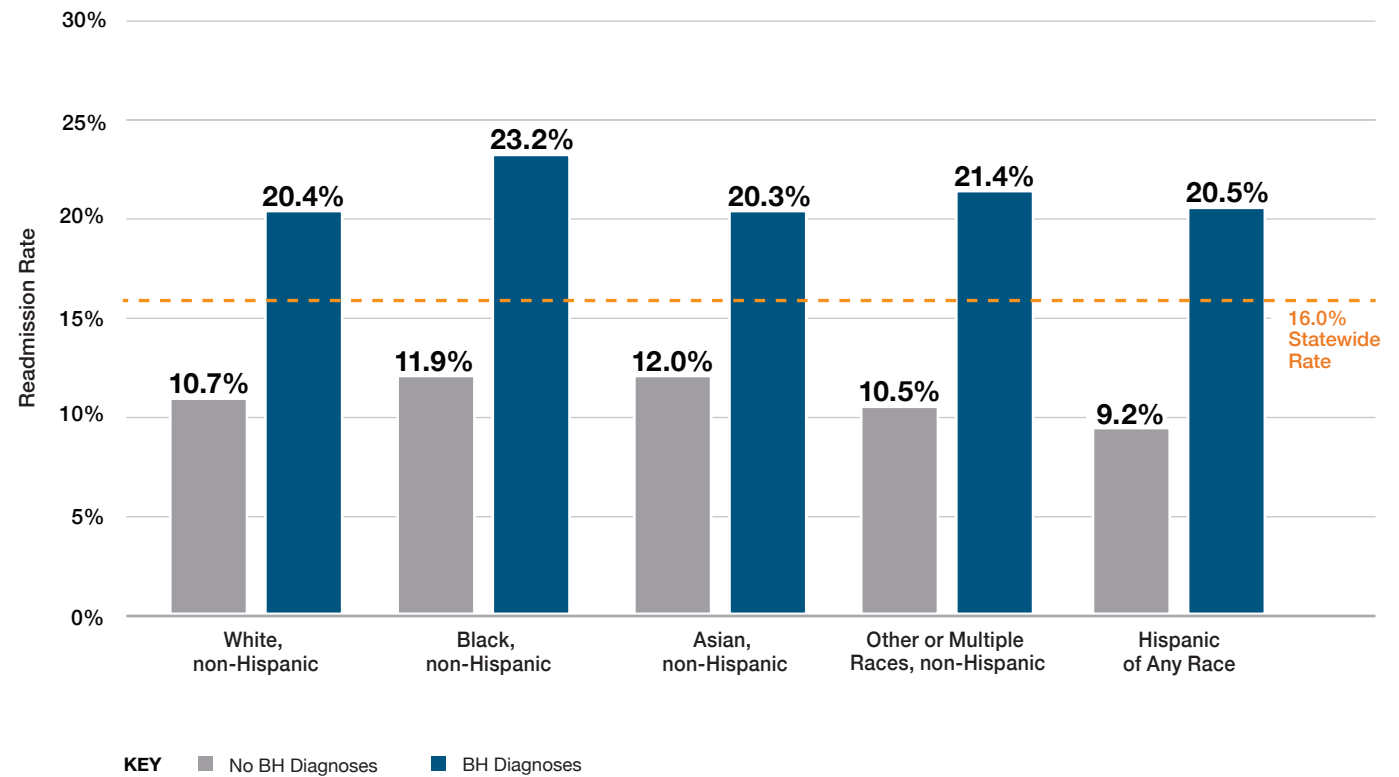
Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Acute Hospital Utilization by Behavioral Health

Patients with behavioral health conditions had higher readmission rates than patients without a behavioral health condition. Non-Hispanic Black patients with behavioral health conditions had the highest readmission rate compared to other racial and ethnic groups, at 23.2%.

Statewide All-Payer Readmission Rates by Race/Ethnicity and Behavioral Health

SFY 2021



Note: Analyses include eligible discharges for adults with any payer, excluding discharges for obstetric care. For more information about the measure, behavioral health and race/ethnicity categories, see [technical appendix](#).

Source: Massachusetts Hospital Acute Case Mix Databases, July 2020 to June 2021.

Notes

- 1 Excess LOS, as defined in this report, is a measure designed in consultation with clinicians to capture prolonged stays in the ED for the general patient population. There are many different thresholds in the literature for identifying excess LOS for various patient populations.
- 2 Commonwealth Fund, 2022 Scorecard on State Health System Performance, <https://www.commonwealthfund.org/publications/scorecard/2022/jun/2022-scorecard-state-health-system-performance>.
- 3 Findings from the 2021 Massachusetts Health Insurance Survey 2022, Center for Health Information and Analysis Boston, MA, <https://www.chiamass.gov/assets/docs/r/survey/mhis-2021/2021-MHIS-Report.pdf>.
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- 7 Artiga, S., K. Orgera, and O. Pham, Disparities in health and health care: Five key questions and answers. Kaiser Family Foundation, 2020.
- 8 Zhu, J., et al., Massachusetts Health Reform and Disparities in Coverage, Access and Health Status. Journal of General Internal Medicine, 2010. 25(12): p. 1356-1362.
- 9 Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Smedley BD, Stith AY, Nelson AR, eds. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington (DC): National Academies Press (US); 2003.
- 10 Assari S. Unequal Gain of Equal Resources across Racial Groups. *Int J Health Policy Manag*. 2018;7(1):1-9. Published 2018 Jan 1. doi:10.15171/ijhpm.2017.90
- 11 Health Equity Framework 2020. 2020, Massachusetts Health Policy Commission.
- 12 Building Toward Racial Justice and Equity in Health: A Call to Action. Office of the Attorney General, Commonwealth of Massachusetts.
- 13 Reports on Massachusetts Acute Hospital Case Mix Database, Center for Health Information and Analysis, Boston, MA, <https://www.chiamass.gov/reports-on-massachusetts-acute-hospital-case-mix-database/>.
- 14 Hospital-Wide Adult All-Payer Readmissions in Massachusetts: SFY 2011-2021, <https://www.chiamass.gov/hospital-wide-adult-all-payer-readmissions-in-massachusetts-sfy-2011-2021/>.
- 15 Emergency Department Visits After Inpatient Discharge, <https://www.chiamass.gov/emergency-department-visits-after-inpatient-discharge/>.
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- 18 Morley C, Unwin M, Peterson GM, Stankovich J, Kinsman L. Emergency department crowding: A systematic review of causes, consequences and solutions. *PLoS One*. 2018;13(8):e0203316. Published 2018 Aug 30. doi:10.1371/journal.pone.0203316
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- 20 Xin H, Kilgore ML, Sen BP, Blackburn J. Can Nonurgent Emergency Department Care Costs be Reduced? Empirical Evidence from a U.S. Nationally Representative Sample. *J Emerg Med*. 2015;49(3):347-354. doi:10.1016/j.jemermed.2015.01.034

Notes (continued)

21 See note 1.

22 McManus MC, Cramer RJ, Boshier M, Akpinar-Elci M, Van Lunen B. Mental Health and Drivers of Need in Emergent and Non-Emergent Emergency Department (ED) Use: Do Living Location and Non-Emergent Care Sources Matter?. *Int J Environ Res Public Health*. 2018;15(1):129. Published 2018 Jan 13. doi:10.3390/ijerph15010129

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